The Builder.

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IT is much to be desired that the construction of our ordinary dwelling-houses should be improved. The system at present pursued in row after row, and square after square, is defective in the extreme, and contradicts very strangely our assumed advances in scientific knowledge. Use begets indifference: whatever has answered the purpose once will do so again, it is thought, and so men go on year after year in the same defective course, without once thinking of its inefficiency or making any efforts at improvement, which in many cases might be effected without any immediate increase of expense, and in all with a positive saving ultimately. The assistance of architects is seldom sought in the construction of small houses; their attention, therefore, is hardly called to the subject, and the result, unfortunately, is that even in cases where they are employed, the same beaten track is pursued; additional effect, if any thing, is alone aimed at, and the employer sometimes finds that his houses have cost him more money, but are little improved in stability, arrangement, or convenience, by the interference of the man of taste. It is a study that would amply repay serious consideration, and loudly demands it; and that not merely as regards sound construction, but as to the mode of heating, ventilating, draining, and lighting houses, to which little or no attention is ever paid. Let us look at one of the "eight roomed houses," of which hundreds are in progress towards completion in the suburbs of the metropolis at this moment. A shell of 9-inch brickwork forms it, divided in the centre by a few upright pieces of timber reaching from floor to floor, and framed into a head and cill:—in some there is no cill, the head of the lower partition forming the cill of that above it, and the omission is a gain. At the top of the building a gutter plate, supporting the rafters of the roof on either side, passes from the front wall to the back in the middle of the house, and rests in the centre of its length on the head of the upper partition. The timber in the partitions, which is usually saturated with water, necessarily shrinks in drying, and reaching in lengths, as it does, from the bottom of the house to the top, of course allows the roof and floors to sag very considerably; and the mischief is further exhibited by numerous cracks in the plaster and paper in every room. In the front-wall the openings are usually so placed as to bring the upper masses over the lower voids, and are always covered by an arch of such defective construction as to be literally useless. When, in addition to these and numerous other errors, we see the mode in which the brickwork is often executed—mortar-joints, or rather mud-joints, three-fourths of an inch thick, upright joints one over another, and scarcely any headers running through the wall—it becomes surprising that so few accidents are heard of. It must not, however, be supposed, that none occur; walls are constantly falling, houses not unfrequently, but very few of these mishaps become known to the public. We have examined two or three fallen 9-inch walls within this last week, and have found them consist of two half-brick leaves, which had separated, bulged, and fallen; and we do not hesitate to assert, that there is a tendency to this same result in the greater number of walls now raised by speculative builders. Nothing, indeed, can be worse than the greater part of the brickwork raised in and round London, and we cannot too strongly condemn it or too loudly call for an alteration. The use of Flemish bond has greatly aided to make bad workmanship general, and it is much to be desired that the prejudice which exists against the appearance of English bond could be overcome, as it is certain that by this mode the greatest strength is attained. A nine-inch wall properly executed in English bond, with only just enough mortar (of stone-lime and Thames sand) to connect the bricks, is stronger, and more effectually keeps out the weather and keeps down the damp, than a wall double that thickness of brickwork such as is too generally found in ordinary buildings. An improvement in the construction of houses concerns us all: we shall lose no opportunity to revert to the defects of the present system, and to suggest the means of remedying them.

MR. COCKERELL'S FIFTH LECTURE ON ARCHITECTURE.

MR. COCKERELL commenced his lecture on Thursday, the 6th inst. (at the Royal Academy), by saying he should treat of the distinctions made by the ancients between civil and sacred architecture, and which, unfortunately, were not regarded by the moderns; and afterwards speak of various buildings used by the Romans—mural decorations, arrangement of ceilings, &c. The method he had adopted in this course, namely reviewing ancient buildings, and more especially Greco-Roman remains, was not for the purpose of displaying erudition, but from conviction of the practical advantages that would result to the students from pursuing it. The last half-century had greatly increased our materials for such an examination, and there was no excuse if we neglected it. To make these lectures merely antiquarian, would have been waste of time; his object was to make them practical. In examining the works of the ancients, we should strive to graft their ideas on our own. The architects of the sixteenth century confessed the superiority of ancient works over those of the middle ages. Bramante practically studied Vitruvius, so did Palladio and others, and laid down principles which have been received, and raised works that are models for imitation. The professor mentioned Colonna as being imbued with love for ancient art, and spoke of his imaginative work on the arts, which took you into the solitude of ancient cities, and raised beautiful visions of ancient skill. If reading Robinson Crusoe had made many sailors, Colonna's work should make many architects. Mr. Wightwick's "Palace of Architecture" was formed on this model, but he had omitted to enlist the feelings.

Genius afterwards became fettered by the rules which had been laid down, and the result was a revolt in the time of Bernini. He again referred to Canina's work, as affording materials for study. The more completely ancient works were investigated, the greater would the reputation of Vitruvius grow. With Canina for a guide they could not fail to be improved.

The recent devotion to Greek art had done good, but had been exclusive. Practically, architecture had suffered since Vitruvius had lost his credit. The want of distinction between civil and sacred architecture, to which he had referred, was a crying sin in modern practice, as also was the manner in which interiors were treated. Vitruvius expressly stated that the entablature should be diminished in interiors, but we used the same mass as if it were in the air, which always had the effect of reducing it. The architects of the Revival had observed these distinctions, but not by rule. He then examined the Palace of the Quai d'Orsay, at Paris, and some of the works of Schinkel, in whose ability he professed to have great faith. Going on then to treat of civil buildings, he described the Theatre of Pompey, 1,000 feet long, and 532 feet wide, and a few of the porticoes at Rome. The magnificence of some of the theatres was almost incredible: they were used as a sort of Parliament House. In the centre of the scene in theatres of late date an apse was formed, probably to aid the voice. He described the magnificent velarium or awning put up by Nero.* Sir Christopher Wren had taken a hint from this for his theatre at Oxford. The velarium at one of the theatres was 550 feet by 450 feet. It required great skill, and was managed by sailors. Its principle was that of the suspension-bridge. The professor remarked that when he restored the ball and cross at St. Paul's Cathedral they were obliged to employ sailors in the operations.

Returning to the subject of proportions for interiors, he ridiculed the practice of applying details from the exterior of the Parthenon in a drawing-room, or executing in joinery the doorway from the Temple of Erectheus for a small chamber. It was illogical to employ the same proportions for two different purposes. When speaking of large rooms, he mentioned the Bank parlour as a very admirable apartment. By pictorial art we might make rooms seem much higher than they really were. The appearance of extent given by using a number of small parts is shewn in Gothic works. The Adams', considered the side of a room as much as the front of a house. It was desirable that it should be represented on paper to a large scale, so as to induce the introduction of greater number of parts to fill the space. When speaking of courts of justice the professor remarked that modern courts of justice were very badly arranged, especially as regarded ventilation.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN ordinary meeting of the institute was held on Monday evening, the 10th inst., Mr. J. B. Papworth, vice-president, in the chair, when Mr. John Burley Waring and Mr. Nathaniel Thomas Randall were elected associates. Herr Gruner acknowledged the honour of his election as corresponding member, and invited all members of the institute to visit him when they came to Rome.

Mr. George Hawkins read a description of King's Scholars' Pond Sewer, particularly with reference to some recent constructions at Pimlico, which will be found at length in another part of the journal. The paper led to an interesting conversation. Mr. Poynter remarked on the badness of the drainage in Paris. As late as the year 1832, when the cholera was talked about, there was no sewer in the Rue Castiglione or in many other equally important streets, although there was every facility for discharging them into the river. Mr. Fowler said, that Berlin was even now quite destitute of a system of sewers. Being built on a sandy flat, little or no fall was to be obtained: deep gutters were dug in the streets, and into these the soil was allowed to run and to remain there for some time. At Hamburg since the great fire, they have adopted a most complete system, under the direction of Mr. Lindley. A plan for the whole was laid down in the first instance, and would be gradually carried out. It was such an extensive work, that thousands visited it, as one of the lions of the place. In order to carry the main sewer across the river, it was made to dip about 4 feet; the accumulation of deposit was prevented by periodically allowing a flush of water to pass through it.

Mr. Rode Hawkins then submitted some drawings of a restoration of one of the edifices at Xanthus, from sketches taken on the spot, accompanied by an explanation of the sculptures and architecture. A description of the building will be found in our report of Mr. Cockerell's fourth lecture.

Relative to cleaning the sculptured portions of it, now in the British Museum, Mr. C. H. Smith said he had observed a labourer at work upon them in a very injurious manner, and hoped greater care would be taken. It was understood that Sir R. Westmacott had been deputed to superintend the operation, and we may, therefore, rest quite satisfied that it will be properly performed.

* See THE BUILDER, p. 18, *ante*.

ON THE DRAINAGE OF A PART OF LONDON.

WITH A DESCRIPTION OF THE KING'S SCHOLARS' POND SEWER."*

At the present day it would be superfluous to dwell at any length upon the benefits derivable in a social point of view from a complete and efficient system of drainage. Its necessity and importance are now universally recognized and admitted; a fact not only evidenced by the very generally expressed desire upon the part of the community to promote its extension, but likewise by several recent legislative enactments framed for its special provision and regulation, and the still increasing interest elicited by the subject.

The wisdom of ancient Rome was not the less conspicuous in her external policy than by those internal arrangements and municipal regulations by which the health, comfort, or convenience of her citizens appear to have been specially studied; and certainly among those public edifices and monuments, whose magnificence is recorded by the historian, or whose ruins now arrest the attention of the traveller, there are none which more forcibly exhibit to us the wealth, magnitude, and extent of the Roman city, than the remains of those subterranean adits formed to receive and convey away the sewage and refuse of her immense population.

In a warm climate, and among a people where the bath may be considered the almost indispensable luxury and appendage of every dwelling, it is obvious that, next to providing the requisite supply of water, the most important consideration was to secure a ready and expeditious means of discharging the waste from each, as well as from the numerous public fountains and aqueducts of the city: we accordingly find the arrangement and conservation of the sewers to have been at all times an object of especial care on the part of the Roman government.

The laying out and construction of the Roman sewerage upon any definite and regular system is said to have been first commenced in the reign of Tarquinius Priscus, about 600 years before the Christian era. To the same period is ascribed the building of the Cloaca Maxima, a work of both historical and architectural interest, since in its date is involved the question of the antiquity of the arch. Some writers, however, are disposed to attribute the present covering of the Cloaca Maxima to a much later period, probably when the sewers generally were repaired by M. Agrippa. But a monument which still continues to exist, after the lapse of nearly twenty-five centuries, may, independent of any other circumstance, still excite our interest and admiration, more especially when we consider that in the midst of the degradation and ruin attending her proudest works of art, this great and useful structure of the Roman city retains in some degree its original purpose, and may still be supposed to minister to the health and comfort of her modern citizens.

The arch of the Cloaca Maxima is formed in three concentric semicircular rings, with an aggregate thickness of 5 feet 11 inches. It is built of Peperino stone, and there are occasional introductions of large blocks of Travertine, which no doubt have been inserted in some of the later reparations of the sewer. The interior is perfectly regular, and for so much as remains in continuation, which is about 44 feet, is generally in good preservation; it is about 13 feet in width, and as many in height. In the walls are stone brackets to support the ends of the waste pipes of the fountains; each block of stone measures 7 Roman palms 3 inches in length, and 4 palms 4 inches in thickness. The course of the Cloaca Maxima corresponded nearly with what has been considered to be the most ancient limits of the city. It had its origin very near the site of the arch of Severus, then it passed under the Via Sacra to the Temple of Julius, turning thence under the Via Nova, and skirting the Palatine Hill to the Forum Boarium, which it crossed; it proceeded in a straight line towards the Tiber, into which it discharged a little below the Ponte Rotto, and nearly beneath the "little Temple of Vesta," the whole length being altogether about 1,800 feet (2,500 palms).

As affording some notion of the importance and extent of the Roman sewerage, it is recorded by Dionysius of Halicarnassus that upon an occasion when they had become neglected, the censors concluded a contract for their cleansing and reparation for the sum of 1,000 talents, equal to 193,000*l.* For the maintenance of the public sewers, there was a tax levied called the cloacarium, and in the time of the emperors they were placed under the control and charge of the public officers specially appointed for the purpose. In regarding the extent of these works and the great expenditure which must have necessarily been incurred by the Romans in the perfecting and maintaining such a system of sewerage, we must not lose sight of their extreme and vital importance to a city, of which the ordinary daily supply of water by the various aqueducts alone, irrespective of that derived from wells and other sources, has been estimated at 50 millions of cubic feet, a quantity nearly ten times the present supply of the metropolis by the different water companies, and of which some adequate notion may be formed when we consider that it is more than equivalent to that contained by a lake 380 acres in extent, and 3 feet in depth. However large, therefore, the capacity of the Cloaca Maxima may appear, it cannot be considered much more than adequate to the ordinary duty it had to perform even in dry seasons, and without the concurrence of those sudden and violent storms to which the climate and latitude of Rome are subject.

In England the earlier statutes and laws, upon which the constitution of the different commissions of sewers is based, appear to have had more particular reference to the drainage of open fen-lands, and the protection of districts subject to inundation, or the overflow of the tide. In fact, in the establishment of the various commissions, little else was contemplated beyond providing a quick and ready conveyance of the surface-waters to their respective outfalls. The circumstance, however, of several of the commissions of sewers embracing within their jurisdiction large portions of town districts have, in complicating their functions, necessarily induced an extension of the objects for which they were originally founded.

Before the general adoption of arched sewers, London was subject to the plague and other periodical endemics; and the accounts of contemporary writers of the filthy and disgusting state of the public streets, arising from a want of proper municipal regulation and defective drainage, even so recently as towards the close of the seventeenth century, are scarcely at the present time credible; and the surprise is not so much at the often times fatal and devastating effects of these visitations, but that the city should ever have been free from their influence.

The intimate connection between the sanatory condition of a town and its state of drainage was strikingly illustrated by Dr. Southwood Smith in his evidence before the committee of the Health of Towns. "If," said he, "you were to take a map, and mark out the districts which are the constant seats of fever in London, as ascertained by the records of the fever hospital, and at the same time compare it with a map of the metropolis, you would be able to make out invariably, and with absolute certainty, where the sewers are, and where they are not, by observing where fever exists; so that we can always tell where the Commissioners of Sewers have been at work by the track of fever."

From a strict and perhaps necessarily limited interpretation of the original statutes on the subject, it was not before the commencement of the present century that soil-drainage was allowed to be passed into the public sewers; previously to that period each house had its system of cesspools, into which not only was discharged the whole of the excrementitious matter of the inhabitants, but the almost equally offensive suillage of the sinks and scullaries of the dwellings, the cleansing of which cesspools was a regular and periodical operation, entailing great expense not only to the occupiers, but likewise much annoyance to the inhabitants of the vicinity. This system, however, is happily almost superseded, and the business of nightman, formerly so offensive, is now scarcely known.

But upon closer investigation, and taking into consideration the circumstances of the period, the necessity for cesspools, and consequently these restrictions, were not without some reasonable ground; the limited supply of water for domestic purposes was considered insufficient to drive the more solid matter through the drains into the sewers. This objection, however, can no longer hold, since the water supplied by the different companies is both abundant and sufficient to act as an effectual scour not only to the private drains of the houses, but also to the public sewers into which they are discharged.

The metropolis and its immediate vicinity is divided among seven different commissions or trusts, in whom are vested the charge and control of the public sewers, with the power of raising rates for their maintenance and improvement. Among these the most important, both from the value of the property within its operation and the extent of country subject to its administration, is the Commission for the "City and Liberty of Westminster and part of Middlesex," the active jurisdiction of which extends from Temple Bar, along the northern shore of the river Thames to Fulham, and northwards from the Thames as far as Hampstead and Willesdon.

This district, comprising an area of nearly 18 square miles, is divided into four divisions or valleys, upon which separate assessments of the sewers' rates are levied. These are known as the eastern and western divisions of the Westminster Sewers, the Ranelagh, and the Counters Creek. The above arrangement is not arbitrary, but is indicated and marked out by the natural configuration of the country itself, being in fact four distinct levels of drainage, each discharging, independently by its own outlets, the waters collected on its surface.

With these few general observations I shall at once proceed to the main object of the present paper, which is to give a brief description of some of the most important improvements effected within the last few years in the sewerage of the second or western division of the Westminster Sewers, more particularly as connected with its main line of outfall—the "King's Scholars' Pond Sewer," which receives by its various collateral branches nearly the whole drainage of this district. The course of this main sewer is pretty nearly through the centre of the valley or district drained by it, and almost in the channel formerly occupied by a rivulet known in early days as the Aye brook, having its source at Hampstead, from the overflow of a spring still in existence, called the Shepherds' well. This, before its stream had become polluted by the encroachment of buildings on its banks, supplied a pond used in those times by the King's Scholars of Westminster for bathing, and supposed to be situated somewhere near to the present site of Vincent-square, from whence it is believed originated the present name of this sewer. The whole area of the western district is about 2,300 acres, of which nearly 2,000 are drained by the King's Scholars' Pond sewer; of this surface about 1,500 acres are covered by streets and houses, the number of assessments being about 16,000.

In considering the King's Scholars' Pond sewer as a discharging line of drainage, it must be borne in mind that there belongs to it this essential feature peculiarly distinguishing it from the Fleet, the Ranelagh, or other main outfalls of the metropolis, and which involves a principle of operation entirely differing from them. I allude to the fact, that the whole of the lower portion of the district drained by this sewer, including the larger section of Westminster, comprising an area of nearly 500 acres of valuable house property, is below the ordinary high tide level of the Thames.

As a security to this low district, it is therefore essential that a free emission of the sewage into the river be restrained always at that point by which it might through the ingress of the tide be affected, and consequently the action of the discharge is necessarily limited by gates at the outlet to a short period preceding and subsequent to the flood, being altogether scarcely six hours in the twelve. As an additional protection against any sudden and accidental irruption of the tide, each of the collateral sewers and drains of the main line is carefully guarded, as far as the high tide level, by self-acting flaps.

Thus it is obvious, that independently of receiving and discharging the drainage of a surface amounting to upwards of 2,000 acres,

* Read by Mr. G. Hawkins, at the Institute of Architects.

this sewer has to retain at its lowest end, at a secure level to the district, for a period of six hours in the twelve (during the rise and recession of the tide), the whole of the sewage accumulated in that time.

The usual quantity of water thus held back, in dry weather and under ordinary circumstances, is about 100,000 cubic feet; but during storms and falls of rain, this, it is evident, must be far short of the actual quantity passing down the sewer, which, to act effectually as a reservoir, ought to be of sufficient capacity to meet every emergency, otherwise upon the concurrence of a heavy storm of rain with a high flood tide, the same liability would arise of submerging the district; but in this latter case, by the water pent back within the sewer.

This consideration has been the chief difficulty attending the question, and has occasioned what may at first view appear to have been an unnecessary enlargement of the sewer at its lower end. When, however, we take into account the extent of surface drained, and estimate the quantity of rain falling upon it during the six hours when the gates are closed at half an inch in depth over the whole surface (which is a moderate computation), and supposing even one-half of this quantity absorbed by the ground, there would still remain nearly two millions (1,815,000) cubic feet of water passing down the sewer, requiring a reservoir of nearly seven acres in extent, and six feet in depth,—we are not surprised to learn that even the present large capacity has been occasionally found insufficient, that more than once the water within the sewer has risen to the height of the external tide, or nearly 14 feet above the cill of the gates.* It is evident, therefore, that those few and general principles applicable to the drainage of ordinary districts are, from the peculiar circumstances already alluded to, insufficient for the relief of the one under consideration, and consequently the question of its efficient drainage has at all times been a matter of frequent and earnest consideration with the Westminster Court of Sewers. About the commencement of the present century the attention of the court was seriously and more particularly drawn to the subject, and to the necessity of providing an improved outfall for the general relief of the district. Among the reasons which more particularly concurred to urge this, not the least was the fact that, in consequence of the recent great increase of buildings and paved streets in the district (independent of the proportionate increase of sewage thereby occasioned), any sudden fall of rain, from there being less absorbing and retaining surface, was carried immediately into the main sewer. This was not only found to be altogether insufficient in capacity, but, from its irregularity of levels and extremely tortuous course, had the effect of so far damming back the stream, as to occasion, more than once, considerable damage to the adjoining property. It was, moreover, in parts exceedingly old and dilapidated, and the increasing value of the ground near Pimlico, as well as towards the lower parts of the district about Westminster, called strongly for some more efficient protection.

As the present object is more to describe the improved state of this sewer than its original capacity or condition, I need merely observe that, in consequence of these reasons and representations from the inhabitants, complaining more or less of the inconvenience and inadequacy of the relief afforded by the old line, the court was induced to seek the professional assistance of the late Mr. Rennie, upon whose report, and that of the late surveyor, Mr. Tredgold, much of the subsequent improvements have been effected. These have comprised within the last forty years an entire re-construction of the old line, from the Thames to St. John's Wood, at a lower level and considerably enlarged capacity, a diversion of its course where it passed under buildings, or was otherwise objectionable, with new outlets, gates, and gate-house, including at the lower end a reservoir for the back-water, these last carried out under the direction of the eminent engineers Messrs. Walker and Burgess.

It was before observed that the King's Scholars' Pond sewer was originally known as the Aye brook, a small rivulet, which, in common with the Fleet and others of the now scarcely remembered streams of London, and recorded by the old chroniclers as being both the pride and recreation of her citizens, had its source in the hills near Hampstead, and, following the valley of the western district in a direction nearly north and south, discharged itself into the Thames at no great distance from the site of the present outlets.

The King's Scholars' Pond sewer runs very nearly in the original channel of the Aye brook; commencing at Hampstead, it still receives the overflow of the Shepherd's well, and for nearly a mile through the meadows, as far as the Marylebone and Finchley road, is open, and preserves yet much of its primitive and rural character. Thence it begins to be covered, and to the Primrose Hill road is 5 feet in height and 2 feet 6 inches in width; along the latter road to the bridge over the Regent's canal it is enlarged to 6 feet in height by 4 feet in width, receiving in its progress the drainage of Portland Town and St. John's Wood. The surface of the roadway not admitting of the last height, the sewer for a short distance is somewhat reduced, and for the sake of headway is covered with cast-iron plates. From the south side of the canal it continues with a gradually increasing capacity along the Park-road, Upper Baker-street, York-place, Dorset-street, and Manchester-street, where it is 7 feet 3 inches in height by 6 feet 6 inches in width. Proceeding then across the centre of Manchester-square, it passes along Duke-street to Oxford-street, when, turning to the eastward as far as Avery-row, along which continuing in a direction nearly parallel to Bond-street, it cuts the south-east corner of Berkeley-square at the foot of Hay-hill; thence, turning to the westward, it passes under Lansdowne-passage, Bolton-row, Sun-court, White Horse-street, across the Green Park, and through the court in front of Buckingham Palace, where its dimensions are 8 feet in height by 9 feet 6 inches in width. Beneath the south wing of that building, under which the sewer passes, is a vaulted chamber or subway, and within it is fixed a simple contrivance, of a cast-iron valve and pentstock, by which the water from the main line may readily be diverted for the purpose of cleansing the flat sewers of Westminster lying between the palace and Millbank.

The line now continues along the Pimlico road as far as Charlotte-street, between which to the Stag Brewery its dimensions have enlarged to 10 feet 9 inches in height, and 9 feet 6 inches in width; beyond this it passes between the back of the houses in Trelleck-terrace, and the premises of J. Lettsom Elliott, Esq., as far as the intersection of the Vauxhall-bridge-road. This last portion is open and is 16 feet wide, and confined on each side by retaining walls 12 inches above the level of the highest known tide of the river. Beyond the Vauxhall-bridge-road, the sewer is open to Warwick-street, but with a greatly increased sectional area for the waterway, the form being an inverted elliptical arched bottom, with a chord line of 19 feet 7 inches, and a versed sine of 3 feet 4 inches, confined by sloping earth embankments, whose superior edge is raised 12 inches above the highest tide level. From Warwick-street to White's-bridge the sewer is again covered, being 19 feet 7 inches wide at the springing, with a headway of 13 feet 4 inches; and for 140 feet beyond this last point the size is again increased, being 20 feet in width and 14 feet 2 inches in height; whence to the gates at the outlet, passing to the eastward of the works of the Equitable Gas Company, the sewer continues open with retaining walls carried above the highest tide level, being, however, for a length of 250 feet from the sluice gates further enlarged to a width of 40 feet, for the purpose of obtaining additional reservoir capacity.

The gates, of which there are two pairs, are of the ordinary lock construction, 28 feet wide, inclosing a chamber built of solid masonry; they incline to the river, and present a superficial aperture towards it of 274 square feet; they are placed under the charge of a gate-keeper residing on the spot, whose duty is to close and open them each tide. The object, I should observe, of the second pair is merely precautionary, and used only in the event of the first being out of order or under repair.

The whole length of the King's Scholars' Pond sewer, thus described, from its source at Hampstead to the river Thames, is rather more than 5¼ miles, of which distance about 4 miles are arched over. The total fall from the Park-road, at the end of Baker-street, to the cill of the gates is 79 feet, giving an average current of about 1 in 220 for the whole distance. Until the last year the arched portion of the King's Scholars' Pond sewer terminated at the part near to Charlotte-street, Pimlico, but upon the application of Mr. Thomas Cubitt, whose property abuts upon the line, to arch over certain portions of the same, the Court of Sewers was induced to concede its permission conditionally upon a public roadway being preserved throughout the entire length so covered. This was guaranteed, and the work was executed according to a section furnished by the commissioners, and under the direction of their officers. It was at the same time decided that Mr. Cubitt having completed the portion undertaken by him, the remaining length of 500 feet down to White's-bridge should be covered over at the expense of the district; the contract for which was subsequently taken by Mr. Cubitt for 1,350*l.* being at the rate of 2*l.* 14*s.* per running foot inclusive of shafts, &c. The section shews a semicircular arch two bricks in thickness and 19 feet 7 inches span, raised upon the old elliptical arched bottom, with counterforts or buttresses at every 10 feet, 2 feet 3 inches wide by 1 foot 6 inches projection. The whole backed with concrete to the height of the haunches of the arch; the first few courses above the old work are in cement.

The above portion of the sewer presents a superficial area of water-way, amounting to 210 square feet, being nearly one-third greater capacity than the Cloaca Maxima of Rome. At certain intervals there are inserted in the crown of the arch cast-iron gratings, for the purpose of giving vent to the air liable to accumulate with the descending water, which otherwise, if confined, might be apt, upon any sudden rise of the stream, to blow up the arch of the sewer. There are also, at intervals of about every 180 feet, descending shafts for the purpose of occasionally inspecting and repairing the work.

It may readily be supposed that the reconstruction of so important a work from the Thames to St. John's Wood, a distance of nearly 18,000 feet, undertaken in the crowded thoroughfares of a large city, subject to the hourly interruptions of its business and traffic, has not been accomplished without a considerable degree of labour, perseverance, and expense. The total outlay upon this sewer alone, within the last thirty years, I may venture to say, has been little short of 130,000*l.* But the benefits have more than compensated even this vast expenditure. Property of the most valuable description in the neighbourhood of the sewer, including Buckingham Palace, the lower floors of which are below the high tide level, and many of the streets adjacent to the sewer, between Piccadilly and the Regent's-park, have been improved to an incalculable extent. Formerly, many localities in the neighbourhood of the sewer were inundated by every sudden heavy fall of rain, so that many of the houses in Berkeley-square, Bruton-street, Avery-row, South Moulton-street, Wigmore-street, South-street, Baker-street, and Spring-street, were greatly depreciated in value, and some houses in Berkeley-street and Bruton-street remained unoccupied for many months together, in consequence of the well-known fact, that in the summer months those premises were subject to have their lower floors blown up during thunder storms, and their kitchen fires extinguished by the waters descending the sewer. If, however, farther proof were required of the extreme value of a good and efficient system of drainage, such as that adopted by the Westminster commission, I need only instance the very important property now rendered available between the Pimlico road and the river Thames; in fact, the district below the high tide level, and formerly subject to its periodical irruption, which, from being heretofore little better than a swamp, perfectly valueless, and most injurious to the health of the neighbourhood, now promises to become one of the most splendid and luxurious quarters of the metropolis.

* Taking the total number of houses drained by the King's Scholars' Pond sewer at 16,000, the ordinary daily amount of back water would give about 22 cubic feet of sewage for each house in the twenty-four hours, about 1-12th short of the average supply to each tenement by the New River and other water companies. The deficiency may perhaps be taken as an approximate measure of that lost by evaporation and absorption before passing into the public sewers. But in the case above assumed of a fall of rain, the proportion of the quantity absorbed would, no doubt, be considerably higher.

As affording some idea of the extreme delicacy of the operations requisite to carry into effect these improvements, I need merely refer to one or two circumstances connected with its progress to prove that even in a constructive point of view its difficulties were of no slight character. I more especially allude to the entire removal of two immense stone piers, which had at some former time been built in the water-way of the sewer, and which piers supported certain parts of the heavy and lofty walls of the houses in Grafton-street, St. George's. These piers, one measuring 53 feet in length, the other of a more square form, divided the water-way into two channels, and were considered formerly advantageous to the property lower down the line of sewer, by penning back the torrent in times of storms. The work of taking out these obstructions, as also removing two great projections, and putting in a new bottom throughout the whole length of the sewer (which here ran under buildings), between Hay-hill and Bruton-street, in length 550 feet, at a greatly reduced depth, was noiselessly, unseen by any one other than the workmen employed, and even without the knowledge of the inhabitants of the houses above, wholly performed from withinside the sewer.

Another operation of scarcely less nicety was to pass the sewer, which was 8 feet wide in the clear, with side walls two bricks thick, at a depth of 22 feet and upwards, beneath White Hart-street, Piccadilly, a street only 20 feet wide, and again carrying the same sewer through Sun-court, Curzon-street, which is in width less than the external dimensions of the sewer itself; and farther on, the sewer winds its course under and close to buildings of great magnitude nearly the whole way from the end of Berkeley-square to Oxford-street, in most instances at depths of from 10 to 12 feet below their foundations. These instances will suffice; but I may, in concluding this notice, perhaps venture to make the remark, that whether we consider the importance, the magnitude, or the beneficial results of the works carried out in this portion of the Westminster Commission, the King's Scholars' Pond sewer may justly be entitled one of the most magnificent and extensive in the structural sewerage of a great city, executed in this or any other age.

FREEMASONS OF THE CHURCH.

Feb. 11.—The Rev. G. Pocock, LL.B., in the chair.

The minutes of the last meeting were read and confirmed. Mr. Thomas Halifax was elected treasurer, and the Right Hon. the Earl of Cadogan was unanimously elected one of the vice-presidents.

Professor Cull moved that a testimonial detailing the services rendered to architecture by the late A. Bartholomew, Esq., F.S.A., be emblazoned on vellum, and framed and glazed, to hang in the council-room of the college; and that a duplicate copy of the same similarly emblazoned, framed, and glazed, be presented to the founder's widow.

Mr. J. W. Archer delivered a preliminary discourse on ancient monuments. The lecturer stated his reasons for prefacing the subject of monuments by a general discourse on ancient monuments, as he found the one in all cases intimately connected with the other. He alluded to the perfection of the earliest existing brasses as something different from other early conditions of art.

After going into some speculations on the source of this branch of art, he proceeded to describe the knowledge of the Saxons in the art of working in British metals, the analogy between some Saxon remains of goldsmiths' work, and the transition of the early engraver from the occupations of goldsmith and chaser.

He distinguished between certain factitious Saxon monuments and such as were undoubtedly genuine, and instanced many early forms of monumental decoration.

After mentioning the brasses of foreign countries, and their inferiority to those of England, he made a remarkable exception in favour of Denmark, and urged the probability of a Scandinavian origin for the art, which he illustrated by a description of the decoration of Scandinavian monuments.

HEALTH OF TOWNS.

At a public meeting held at Exeter Hall, on the 11th of December last, the Marquis of Normanby in the chair, an association was formed for the purpose of diffusing among the people the information obtained by recent inquiries, as to the physical and moral evils that result from the present defective sewerage, drainage, supply of water, air and light, and construction of dwelling-houses; and also for the purpose of assisting the legislature to carry into practical operation any effectual and general measures of relief, by preparing the public mind for the change.

The Committee have recently published the speeches that were made on that occasion, and will do good if they circulate copies of the report containing them as extensively as possible. As the noble chairman said at the meeting—

"The question before the public is not one merely of bricks and mortar, of ventilators and drains. His valued friend, Dr. Southwood Smith, had proved in his evidence that filth and discomfort deteriorate the moral condition; that the worst places contain the greatest criminals."

Without pretending to go through the whole of the speeches, we may allude to some observations made by speakers which escaped notice at the time. Relative to sewers, Sir R. H. Inglis said, that in Lancaster, excellently situated for drainage and sewerage, and yet most imperfectly provided with either, and where, in consequence, disease and mortality were very great, the sewers were in a square channel; a form which, if a mathematician were to sit down and calculate what would be the most unsuitable, would be selected by him; bad as it is on principle, it is equally rejected by all experience. The great sewers of Rome, indeed, built two or three thousand years ago, remain—in their arched form and their solid construction—the model of all others. Yet this square shape is persisted in at Lancaster; the doctrine being laid down, he would not say by whom, when an improvement was pointed out—"No, we don't copy *nought* here."

Mr. B. Hawes, M.P., remarked that "people rejoice when what is called a low neighbourhood is visited by a new line of street. The houses of the poor are pulled down, and doubtless, even as things are, good, great good even, is now done. Nevertheless, the people must find homes somewhere. New alleys and courts are built. Are they well lighted, or drained, or ventilated? Let any one go into the new districts, and see the provision made for them. Are any of the modern improvements introduced, such as they find essential? He thought not, or at least in a very slight degree. There are plans now forming in the district in which he lived. Plans for new streets. He gave no opinion upon the merits of any particular plan. He spoke generally, and he found no provision for dwellings for the labouring classes; or if they are provided, the last thing thought of are these sanatory provisions, instead of their being the first. If public opinion were directed to this subject, this would not be the case. Warming, and ventilating, and lighting, might, in well contrived buildings for families of the labouring classes, be very cheaply provided. He thought it even would answer as a speculation. As to the economical warming and ventilating of large buildings, he would only quote a remarkable instance, that of the New Prison at Pentonville. From 30 to 45 cubic feet of pure fresh air are made to pass into every cell in a minute. This ventilation, and a temperature ranging from 52° to 60°, is uniformly maintained during the coldest weather at an expense of less than *a farthing a cell for* 24 *hours*. Now, the construction of this prison is far from favourable for either warming or ventilating it. He was confident that houses might be so constructed as to secure these advantages at as cheap a rate.

Mr. Grainger said, that on visiting Nottingham three or four years ago, he found whole streets of wretched houses without drainage, without the means required by common decency, and without the least supply of water, which latter article could only be obtained from distant pumps, and then by a species of theft. The natural results followed: in fact, there was a constant sequence in the evidence of the surveyor and the medical man, and wherever the former stated that the houses were badly built, were undrained, and uncleansed, the latter pointed to those exact localities as the seat of sickness and fever, recurring again and again as regularly as the seasons returned.

METROPOLITAN IMPROVEMENT SOCIETY.

At the last meeting of this society communications were read from Sir Robert Peel and the Earl of Lincoln, in answer to applications from the secretary relative to the long-promised Ordnance survey and map of London, and the projected encroachment upon the carriage-way of Lincoln's-Inn Fields.

On the first subject it appears that the estimated expense of a metropolitan survey having exceeded his anticipations, Sir Robert Peel had been deterred from introducing a bill for the object.

The amount of the Ordnance estimate was not stated, and, from the discussion which ensued, several members of the society seemed of opinion that the expense of a comprehensive survey for public use could not well exceed that which had actually been incurred, within the last six months, in the numerous local surveys in the neighbourhood of the metropolis by railway companies. The whole of these surveys would have been unnecessary if an Ordnance map of London, with contour lines, had existed on a scale of 5 feet to the mile; and the Board of Trade would have had a simple means of testing both the correctness and expediency of the various plans submitted to them for railroad lines with new termini in the metropolis.

On the subject of the projected encroachment on the carriage-way in Lincoln's-Inn Fields, for the purpose of insulating the new law courts, the Earl of Lincoln had satisfactory reasons for believing that the project had been definitively abandoned.

Various drawings were laid on the table embodying the suggestions of Mr. Laxton, Mr. Austin, and other gentlemen, for removing the defects of the government plan for an embankment of the Thames between Westminster and Blackfriars bridges.

The government plan had been postponed, and might ultimately be given up, but it appeared possible to obviate the objections made to it, and it was determined to seek an interview with the Earl of Lincoln to submit for his consideration the improvements required.

In the course of the evening an anecdote was mentioned by the chairman which forcibly illustrates the importance to the public of the late sanatory reports, to some portions of which the society have endeavoured to give effect. A legal friend had inquired of a medical practitioner, high in the profession, why the whole body of medical men in London did not, with one voice, address the legislature to modify the window-duties, and remove every other evil arising from either imperfect ventilation or defective drainage. The reply was the following:—

"When you gentlemen of the law petition for measures to diminish litigation, medical men may be expected as a body to agitate for the removal of all causes of disease. If a government were found able and willing to carry out all the recommendations of the sanatory reports, it would diminish the means of livelihood of the medical profession to the extent of one-half; positively one-half."

Mr. Nixon's Statue of William IV.—Now that the scaffolding and hoard are removed, we will mention that the whole of this monument including the figure, is executed in Foggintor granite, and that the total cost is 2,200*l*. Peterhead granite would have been preferred on account of colour, but the price asked for it was so high as to prevent its adoption. The granite posts in the footway were devised by Mr. W. Johnson of Westminster, all the masonry was executed by Mr. Chadwick, and the iron work which surrounds the basement by Messrs. Dewer of Old-street. We can well believe that the greatest pains have been taken by the sculptor to produce a fine statue, and that his task, a first attempt in a new material, has been difficult. The arrangement of the pedestal is original and effective.

NEW MODE OF CONSTRUCTING BUILDINGS.

Lieutenant Higginson has obtained patents for a mode of construction to obviate danger from fire. We insert the inventor's description of the system, but shall withhold our opinion upon it until we can examine his models and drawings :—

"To avoid (says the author) anything like exaggerated pretension or egotistical assumption, has been my primary object. And as all inventions are now necessarily but the adoption of known forms and principles to novel purposes, I have no wish these improvements should be considered more than the result of a fortunate experiment, originating in the exigencies of maritime adventure, subsequently, however, after much labour and consideration, adapted to shore architectural purposes ; the object being to remedy those defects in the existing system of construction most pregnant with danger to the community; and without attempting to alter either the present principles or practice of house building, by the substitution of iron for wood generally throughout the structure, to render erections not only fire-proof, but by having no perishable material inserted, quadruple the strength, obviate their tendency to decay.

"These *desiderata* are attained in the following manner :—The patent joists of cast or rolled iron, T shaped, have at each end of any required length a dovetail projection all of one size, fitting into flanched mortices on the iron girders and bonding sockets. The iron girders, of proportionate strength, are likewise I shaped, but reversed, having flanched dovetail mortices cast on each side of them, one foot or eighteen inches apart, as necessary, to receive the dovetail ends of the joists. The iron bonding sockets are of the size and shape of a brick, cut off angularly before, cone shaped cast hollow; in the shorter side having a like dovetail mortice to receive the joists. The short iron trimmer joists compass the chimneys in the usual manner, fitting by dovetail ends into mortices cast on the principal trimmer, at one end, and into the bonding sockets, built into the house wall, beside the chimneys, at the other. The usual arch for the support of the hearth being provided for by iron bearing-pieces fitting in mortices between the short trimmer joists, with an iron plate to uphold the bed of mortar under the hearth stone; thus rendering the whole frame-work of the floor perfectly independent of support from the stack of chimneys, the entire isolation of which obviates all danger of that sinking which occasinally takes place from their greater weight in chimney stacks recently erected. The wells, or openings for staircases, are formed by iron trimmers cast with dovetail mortices on them to receive the joists, and may be obtained of any required form, size, or description. Additional means of support being provided, when requisite, by iron pillars with a screw in the centre of the lower end, fitting into a female screw socket, drilled into the trimmer beneath—a tenon or projecting piece, at the upper end of the pillar, entering a recess, cast or drilled to receive it, in the trimmer of the floor above. Breast-trimmers for shop-fronts, gateways, and other purposes, may be cast with the mortices for the joists on the inside; and any description of ornamental device, name, or entablature without — trussing spans, to support great weights of superstructure, being likewise, where requisite, annexed. And when the non-transmission of sound between different apartments is required, however near as a substitute for the usual filthy and destructive method of pugging, slight sheet iron, or tin cases, fitting in breadth and depth, between the iron joists, are inserted; which cases, when made, are supported internally from collapse by strong iron upright wires; and the atmospheric air within being displaced by passing a body of steam into them—upon hermetically sealing, and allowing the steam to condense, a sufficient approximation to a perfect vacuum is obtained to prevent the transmission of either heat or sound. Unlike the mould and saw-dust now used, adding little to the superstructural weight; and effectually preventing extended combustion, should even the wooden floors and furniture of one apartment be ignited and destroyed.

"It may be necessary to recapitulate, that the walls having been built up in the usual manner to the required height, from floor to floor, the patent iron joists are laid in precisely the same way as if of wood, on an iron bond, observing that at every fourth joist, an iron, brick-shaped, bonding socket is built into the wall, to receive the dovetail end of the joist; the like bonding sockets being likewise inserted in the party-walls when no girders are used—the inside ends of the joists fitting into the flanched dovetail mortices cast on the girders and trimmers, as before described, wherever both or either are in use. By these means the whole fabric is tied together and supported as one solid mass, the bonding sockets in the front walls uniting by dovetail the joists to the girder, or party-walls, in the interior; this central holding being again connected by the iron joists with the bonding sockets built into the back walls. One great saving effected in material and workmanship it may here be admissible to particularize. Supposing the depth of joist required in wood to be fifteen inches, an iron joist nine inches deep would be more than adequate; and thus, with the same pitch of ceiling upon every story, two courses of bricks around the entire fabric, with the mortar and workmanship, would be saved. There are other advantages equally obvious, although, perhaps, of minor importance—such as entire exemption from vermin of every description. Notwithstanding this, the construction of barns may be to the farmer of very serious moment, when the ravages committed by vermin are considered.

"In cases where the floors are intended to be of wood, a groove is run along beneath the upper arms of the patent iron T joist, to receive an iron bracket. The floor planks being laid, and temporarily cramped, or shored down, upon the iron joists, a projecting, square-headed, shouldered screw is inserted by a spanner, through the upper arm of the bracket, into the lower surface of the floor plank, which is thus effectually secured to the joist. It being noticed, that should the boards shrink, they may be forced together and the interstices filled up by one piece in any convenient position, in consequence of the brackets moving along the grooves in the joists, and each plank being secured independently of the others. The unsightliness of a shrunken floor is thus not only remedied, but as no nail holes are visible, the screws beneath not perforating the entire thickness of the plank, one unbroken surface is presented, which for the purposes of cleanliness and appearance is alike desirable. Magazine or warehouse floors, for goods liable to spontaneous combustion, may, however, be laid of either metal, slate, or stone, rivets being substituted for screws in attaching such to the iron joists beneath—which joists are of many forms as well as that specified, when applied to different uses.

"As respects internal ceiling and plastering, these iron joists admit of the common lath being used ; in which case, to hold the lathing nails, a small fillet of wood is driven into a recess formed to receive it in the lower edge of the joists. But as it is desirable that decay as well as fire should be provided against, perforated common tin, or thin galvanised iron plates, being punched full of holes, or rosed, like the nose of a watering-pot, with the rough side towards the plaster, are substituted for the laths; to which the mortar, being applied by the usual process, forces itself through the perforations, and keys at the back of the plate in precisely the same manner it would do between laths. One-half of the ordinary labour, time, and material are in this instance likewise saved, two coats of plastering only being required—and the same sound-transmitting ceiling and wall-surfaces preserved. These plastering plates are attached by means of a small double-ended iron key passing through them edgeways, into mortices in the iron joists, and battens, adapted to walls; being by a spanner afterwards turned across the entering orifice, and thereby effectually and immoveably annexed. A house thus constructed cannot be destroyed by fire, and has but little tendency to decay ; whilst the expense of erection, taking all items into consideration, does not exceed that of the present method of building with perishable and inflammable materials. It is however, perhaps, impossible to describe in words all that has been practically accomplished; and I shall therefore be happy to furnish any who may be interested, with samples, models, or patterns of these inventions."

WORKS OF ART AT BRITISH INSTITUTION.

The exhibition of works of modern artists, at the British Institution, in Pall Mall, was opened to the public on Monday last. It consists of 509 paintings, and 12 pieces of sculpture, and the catalogue states that 275 other pictures were returned from want of room. Until the present year works previously exhibited elsewhere were admitted, and the best places were usually occupied by pictures already known to frequenters of the Royal Academy exhibition, and which, moveover, had been sold, while other pictures not exhibited were returned. This was a manifest hardship on the painters of the latter, and being felt as such by the directors, a resolution was passed to prevent the admission of pictures which had been publicly exhibited before.

The present collection, then, consists of entirely fresh works, and may be considered a successful issue of the new arrangement. The Royal Academicians, it was said, would not paint pictures purposely for this exhibition, whereas we find here Edwin Landseer, Etty, Knight, Lee, Stanfield, Hart, Howard, and others, stronger in numbers than usual. The first, E. Landseer, has some wonderful productions of the class to which unfortunately, as we think, he confines himself. *Decoyman's Dog and Ducks* (No. 1), *King Charles's Spaniels* (No. 134), and *Retriever* (No. 199), are inimitable. Etty has some charming studies. *The Forsaken*, although small and slight, is a magnificent piece of colour. Stanfield has three beautiful pictures, of which *On the Hollands Diep* (No. 129), is the most important.

We will pass rapidly through the catalogue, and point out some of the most noticeable works. *Fruit* (26), by Lance, is a fine specimen of art, and *Scraps from a Burgomaster's Table* (102), by the same painter, is equal to any work of the sort ever executed.

Belgic Galliott aground on the Shallows off Bergen-op-Zoom (44), by E. W. Cooke, is admirably painted; the same may be said of his *Dort, Morning* (90). Mr. Cooke has three other pictures which deserve examination.

The Widow's Benefit Night (59), by F. Goodall, is one of the gems of the exhibition. It represents the interior of an Irish cabin, with dancers and revellers, and is full of character and humour. Every head is a study. *The Soldier's Dream* (197), by the same rising painter, is a fine picture, but less perfect than the preceding.

A Water Mill (124), by H. Bright, is full of beauty.

Mr. Müller has greatly distinguished himself in the present exhibition. *Rhodes, with the Pacha's Palace on the right hand of the picture* (140), and *Tomb in the water, Telmessus* (498), are not surpassed in excellence by any landscapes in the gallery.

Music (311), and *Poetry* (314), both designs for fresco by H. N. O'Neil, are full of sentiment and grace.

A Summer Afternoon (312), by J. D. Wingfield, is a view in the gardens of Hampton Court Palace, charmingly painted.

> "Here, thou great Anna! whom three realms obey,
> Dost, sometimes counsel take, and sometimes tea,
> Hither the heroes and the nymphs resort
> To taste awhile the pleasures of a court."

This picture and one by F. Danby, *The Gate of the Harem* (401), an admirable work, have been purchased by Prince Albert.

Our limits forbid any lengthened observations: we must content ourselves with commending and pointing out for examination, *A Scene from the Sentimental Journey* (442), by W. P. Frith, *Childe Harold at the Tomb of Cecilia Metella* (508), by F. Williams, *Reading* (248), by Alexander Johnston, *Stray Hounds*, (233), by Josi, *Entrance Porch of the Church at Cannes* (150), by A. E. Goodall, *Highland Refugees on the Coast of France* (409), by Mrs. Mc Ian, and *Dutch Boats off Ostend* (287), by C. Bentley.

There are several bad pictures by men who ought to do better, but with these we will not meddle.

The Wesleyan Society are about to erect a chapel in the Belgrave-road, between Eccleston-square and Warwick-square. Mr. Seth Smith and Mr. Archbutt have subscribed 100*l.* each, and Mr. Edge 50*l.*

VIEW OF THE QUADRANGLE, ST. BARTHOLOMEW'S HOSPITAL.

ST. BARTHOLOMEW'S HOSPITAL.

At page 42 of the present volume, we noticed the foundation of this establishment, and presented an engraving of the principal gateway in Smithfield. We now furnish a view of the quadrangle and a view of the gateway in Giltspur-street. The hospital commenced by Gibbs in 1730, as we have already mentioned, consists of four piles of buildings around a court, connected by stone gateways at the angles. The buildings are all faced with stone, have dressings around the door and window openings, and are terminated by a cornice and balustrade. Although plain and unpretending, there is a considerable degree of elegance about the arrangement of these fronts, but they are not in a fit state to be judged of.

An inscription on the hospital, after setting forth the date of its foundation and of the reconstruction of the edifice in the 18th century, states, that a general repair was commenced in 1814, and finished in 1820, under the direction of Thomas Hardwick, Esq. Looking, however, at the fronts of the building, it hardly seems credible that it was repaired so recently. The stone work is more decayed and dilapidated than that of many buildings centuries old. The window-heads are broken, the cornices decayed, and the whole front disfigured, the certain result of the use of Bath stone. All over the surface may be observed a sort of eruption, the operation of which is to throw off layers of the stone. It appears in the first instance, in the shape of slight swellings, which, increasing in size, gradually meet, when they burst and the crust falls off. A punster might take it for a small-pox hospital. The matter, however, is too serious for joking, and should serve as a warning to living architects. There is actually danger in allowing the stone-work to remain as it is, and something must speedily be done to remedy it, or the fall of some of the outside will furnish the inside with inmates. It was recently proposed to case the whole of the exterior with Portland stone, simply cutting away such parts of the present work as might be necessary to obtain good fixing. The object of that mode of proceeding was of course to avoid throwing open any part of the building, and so interfering with the patients.

The gateway in Smithfield, and that of which we now give a view,* are constructed of Portland stone, and present a striking contrast to the main building, being perfectly sound and whole, although of earlier date. Eight or ten years ago, the sides and back of the first gateway were cased with stone, by Mr. Malcot, in consequence of the removal of the houses which, until that time, adjoined it, but few or no repairs were required to the existing stone-work, or even to the figures sculptured in it. According to Mr. Malcot's opinion, indeed, and as a practical mason who has been engaged for fifty years in repairing old churches and raising new buildings (the Post Office, National Gallery, &c.), he is entitled to consideration,—good Portland stone never decays, although the surface may be worn by long exposure to the weather.

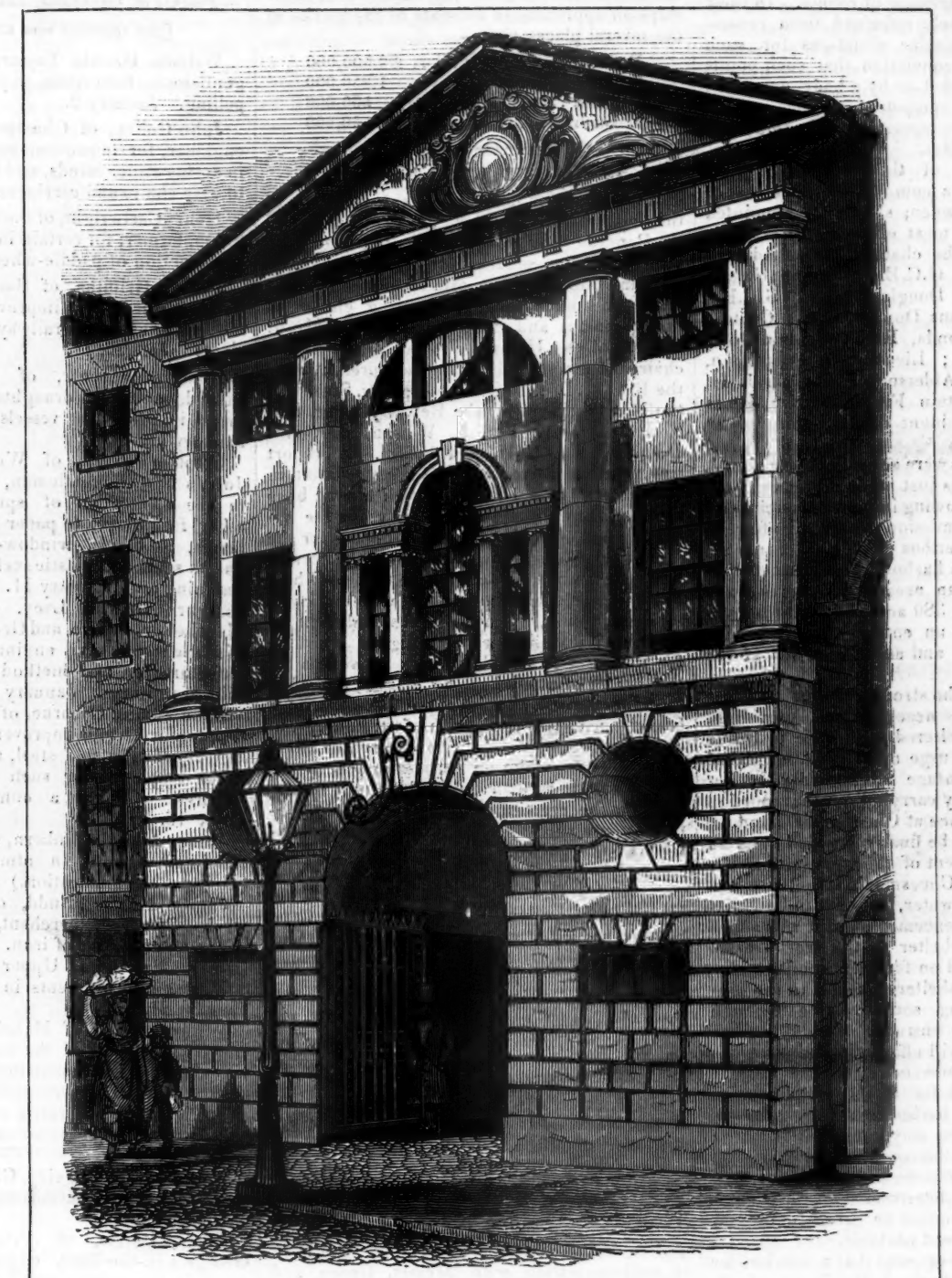
The gateway in Giltspur-street is Roman-Doric, and presents four attached columns on a rusticated basement, supporting an entablature and pediment, and having two tiers of windows between them: the centre intercolumniation is wider than the others are, and admits a Venetian window in the lower part.

Attached to the hospital is the church of St. Bartholomew the Less, formerly the chapel of the establishment. The interior of it is curious, although little of the old building remains. In plan it was originally square; but George Dance, the architect, in 1789, having first destroyed the interior of the old building, formed it into an octagon, chiefly with timber. It was re-constructed on this same plan in 1823 by Mr. Thomas Hardwick, who substituted stone. The roof is of iron.

Returning to the hospital, it may be stated that no mention is made of it in the volume of designs which Gibbs published, although the second edition of this collection did not appear till some time after the commencement of the works, namely 1739. Gibbs, a favourite of fortune when alive, was considerably under-rated afterwards, and at this time is hardly so well estimated as he deserves to be. A memoir of him will be found in the first volume of The Builder, p. 203.

* This illustration is not so satisfactory as was desired, and would have been cancelled if time had permitted.

ST. BARTHOLOMEW'S HOSPITAL,—GILTSPUR STREET GATEWAY.



PUBLIC MONUMENTS.

We stated in a recent number that a committee was being formed in the city for the purpose of erecting by subscription a full-length marble statue of Prince Albert in the Royal Exchange, in commemoration of his having laid the first stone. Since then, a meeting has been held of the most eminent merchants, bankers, shipowners, underwriters, and others interested in the commerce of London, when it was determined that the statue should be executed by Mr. J. G. Lough, the sculptor, now engaged on the statue of her Majesty, which is intended to be placed in the centre of the quadrangle of the Royal Exchange.

At the 24th annual meeting of the Seamen's Hospital Society held last week, it was announced that it had been decided to place another monument in the Royal Exchange in lieu of the one destroyed by fire, in honour of the memory of Mr. J. Lydekker, one of the most munificent benefactors of the Hospital, permission for that purpose having been granted by the Gresham and Royal Exchange Committee.

The Dublin correspondent of the *Morning Herald* states, that Lord Heytesbury has recently visited the studio of Mr. Kirk, the sculptor selected by Sir Robert Peel to execute the statue of Sir Sydney Smith, intended for Greenwich Hospital. The work is nearly finished, and in a short time it will be ready for removal to England. His Excellency expressed his satisfaction with the spirited character of the figure, and with the correct likeness, which, he observed, he felt competent to declare, from his personal knowledge and vivid recollection of that heroic soldier.

THE PORTLAND VASE.

All England has heard by this time of the destruction of the celebrated Portland, or Barberini Vase, one of the finest specimens of Greek art in the world, by a miscreant called William Lloyd. It was deposited in the British Museum in the year 1810 by his Grace the Duke of Portland, and has always been considered to be his property, hence the name of the "Portland Vase." It was found about the middle of the sixteenth century, about two miles and a half from Rome, in the road leading from Frascati. At the time of its discovery it was inclosed in a marble sarcophagus within a sepulchral chamber, under the Mount called Monte di Grano. The material of which the vase was formed was glass; the figures, which were in relief, were of a beautiful opaque white, and the ground was in perfect harmony with the figures, and was of a beautiful dark transparent blue. The subject of the figures has hitherto remained in obscurity, but the design and sculpture were admirable. This vase was for more than two centuries the principal subject of admiration in the Barberini Palace. It was purchased about thirty years ago by the Duchess of Portland from Sir William Hamilton, and in the year above stated was deposited in the British Museum for the gratification of the public.

Such is the defect in our laws that no punishment can be inflicted on the rascal (our pen will not write a milder word) who has committed this wanton and distressing outrage. If it had been worth less than 5*l.* a magistrate could have inflicted a fine of that amount; but being above it, an action for damages is the only step that can be taken to obtain redress. This being the case, the charge against him for breaking the vase was abandoned, and he was fined 3*l.* for breaking the glass which covered it!! It is to be hoped that immediate steps will be taken to obtain a law for the protection of works of art. For our own part we would willingly assist to nail this fellow's ears to the gates of the museum, that he might serve to deter others from similar outrages. We are glad to be the first to convey to the public the intelligence that the vase can in all probability be restored satisfactorily, notwithstanding the number of pieces into which it is broken.

HARBOURS OF REFUGE.

The select committee of the House of Commons on shipwrecks, which sat during the session of 1833, had their attention drawn to the formation of harbours of refuge. In their report they purposely refrained from recommending any particular situations for such harbours, from a conviction that such points would be best decided on by a body composed of scientific and competent persons, whose attention should be specially and exclusively directed to the subject.

In consequence of this, Sir Robert Peel recommended that a commission, to consist of the following gentlemen, should be appointed to inquire into the most eligible situations for such harbours in the channel, viz.:—Admiral Sir Byam Martin, G.C.B., chairman; Lieut. Gen. Sir Howard Douglas, Bart., G.C.B.; Rear-Admiral Deans Dundas, C.B.; Captain Sir William Symonds, R.N.; Captain John Washington, R.N.; Lieut. Col. Colquhoun, R.A; Lieut. Col. Alderson, R.E.; Sir J. H. Pelly, Bart; Captain Fisher, R.N.; James Walker, Esq., President of the Institution of Civil Engineers.

These gentlemen were accordingly appointed, and their report has just made its appearance. It contains the following important conclusions to which the commissioners arrived after an inspection of the various channel harbours:—

"First,—That a harbour be constructed in Dover Bay, with an area of 520 acres up to low-water mark, or 380 acres without the two-fathom edge; with an entrance 700 feet wide on the south front, and another of 150 at the east end.

"Entertaining the strong opinion we have expressed of the necessity of providing, without delay, a sheltered anchorage in Dover Bay, we venture to urge upon your lordships' attention the advantage of immediately beginning the work by carrying out that portion which is to commence at Cheesman's Head.

"Whatever may be finally decided upon as to the form and extent of the works in Dover Bay, the pier from Cheesman's Head, run out into seven fathoms water, appears to be indispensable as a commencement, and it will afford both facility and shelter to the works to be subsequently carried on for their completion.

"This will give sheltered access to the present harbour during south-west gales, and protect it from the entrance of shingle from the west-ward; it will afford time also for observation on the movement of the shingle within the bay, and for further inquiry as to the tendency which harbours of large area, on this part of the coast, may have to silt up.

"These inquiries the commission consider to be of essential importance, and the results will afford the means of determining on the greater or less width that should be given to the entrances of the proposed harbour.

"Secondly,—We propose that a breakwater be constructed in Seaford Road, in a depth of about seven fathoms of water, one mile in extent, and sheltering an area of 300 acres.

"Thirdly,—That a breakwater be constructed in Portland Bay, to extend a mile and a quarter in a north-eastern direction, from near the northern-point of the island, in about seven fathoms of water, having an opening of 150 feet at a quarter of a mile from the shore, and sheltering an area of nearly 1,200 acres.

"If only one work is to be undertaken at a time, we give the preference to Dover, next to Portland, and thirdly to Seaford.

MODE OF CONSTRUCTION.

"We are directed by your lordships to report on the expense to be incurred by the completion of the works which we recommend; but as no approximate estimate of this can be made without determining the general principles and modes of construction, we have examined the engineers who have come before us and other authorities upon these important points.

"The various opinions have been considered by the commission, who prefer for the construction of breakwaters, and for the security of the works of defence upon them, the erection of walls of masonry.

"The commission do not offer any opinion as to the profile or degree of slope necessary to insure to the structure the requisite stability. They consider that this will be best decided by the government, under professional advice, when the works shall be finally determined on.

"The cost of either mode of construction having been stated to be nearly the same, whether it be masonry or long slope of rough stone similar to that of Plymouth Breakwater, the commission beg to lay before your lordships an approximate estimate of the works at the several places, viz:—

Dover	£2,500,000
Seaford	1,250,000
Portland	500,000
Harwich	50,000

BATHS AND WASH-HOUSES.

A numerous and important meeting of the clergy and gentry of the parish of St. Pancras took place last week at the vestry rooms, Gordon-square, for the purpose of carrying into effect the establishment of baths and wash-houses for the labouring classes in that populous and extensive district. Mr. J. Harris, of the Hampstead-road, occupied the chair, and amongst the gentlemen present were the Rev. W. Dodsworth, the Rev. Dr. Stebbing, the Rev. H. Hughes, the Rev. D. Lang, Mr. J. P. Gibbons, Mr. E. Wilson, Mr. W. Douglas, Mr. J. H. Smith, &c. A report was presented, from which it appeared that in consequence of a communication having been received from the Central Society for the Establishment of Baths and Wash-houses for the Labouring Classes, recommending the formation of a branch association in that parish, a committee had been appointed, who had come to a resolution, "That the establishment of baths and wash-houses was highly desirable for the comfort and cleanliness as well as for the health of the labouring classes, and they therefore cordially approve the formation of a branch society in the parish of St. Pancras, to carry out that object." The committee felt it their duty to make an earnest appeal to the inhabitants to furnish them with funds necessary for the erection of public baths and wash-houses on a suitable scale in one or more districts of the parish. The report having been adopted, it was resolved that deputations should wait on his Grace the Duke of Bedford, the Marquis of Camden, Lord Southampton, Lord Somers, and other great landed proprietors of the district, to solicit their aid and co-operation.

The following instance of liberality on the part of a public company as setting a noble example, will, we trust, not be without its effect. At the annual meeting of the proprietors of the Birmingham Fire Office held last week, it was resolved that 50*l.* be given in aid of the funds now being raised for the establishment of public baths in that town.

From Bath we hear that the committee of gentlemen who have taken up the laudable object of providing baths and wash-houses for the poor of that city, are prosecuting their inquiries on the subject, and that they have been in communication with Messrs. Green and Simms, the lessees of the baths, with reference to the availableness of the surplus hot water of their establishments (which, we are informed, amounts to 5,000 hogsheads per week). During the last four years about 4,000 gratuitous hot baths have been annually furnished to the poor by the lessees of the baths, upon the simple recommendation of any medical gentleman, stating that the individuals recommended were likely to be benefited by the waters, and unable to pay for their use.

Opening of the City Hall, Perth.—This edifice was opened last Wednesday week with a civic banquet, combining also the attraction of a grand concert and the eloquence of public speakers. The arrangements were on a liberal scale and well regulated, and although at least from 1,300 to 1,400 persons were accommodated within the walls of that one apartment, there was no crowding, no confusion. The *Perth Constitutional* says, "The decorations are in the first style of taste, and will have grander appearance when the skill of the painters shall have been brought to bear upon them. On this occasion all was white—the drapery of the platform and covering of the tables, which were of a light crimson, contrasting finely therewith. The sixteen tall pillars, serving for as many candelabra, surrounded with ornamental branches (eight on each of the principal four, and six on each of the rest), send forth a flood of light without producing any degree of shadow.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-Inn Fields.

[six months for enrolment.]

William Hannis Taylor, of West Strand, gentleman, for certain improvements in propelling. January 2.

John Gollop, of Charles-street, Middlesex, engineer, for improvements in spring hinges, in spring roller blinds, and in applying springs to easy chairs and carriages. January 11.

Henry Cartwright, of the Dean, near Brosely, Salop, farmer, for certain improvements in the construction of paddle-wheels. January 11.

Robert Griffiths, of Smethwick, Birmingham, engineer, for improvements in the manufacture of bolts, railway pins, spikes, and rivets. January 11.

George Spencer, of Hungerford-street, Strand, engineers' draughtsman, for improvements in propelling vessels on inland waters. January 11.

Stephen Perry, of Woodland-place, St. John's Wood, gentleman, for improvements in the application of springs to locks and other fastenings, to paper-holders, to candle-lamps, to blinds, window-sashes and doors, and to seats and elastic surfaces for sitting and reclining on. January 11.

Henry Charles Lacy, of Kenyon-house, Manchester, esquire, and George Watson Buck, of Manchester, civil engineer, for a new manufacture for and method of sustaining the rails of railways. January 14.

John James Osborne, of Macclesfield, gentleman, for certain improvements in the manufacture of iron and steel, and in the furnaces to be employed for such or similar manufactures. (Being a communication). January 16.

Henry Adolphe Dubern, of Paris, merchant, for improvements in atmospheric railways. (Being a communication.) January 16.

James Palmer Budd, of Ystalyfera iron works, Swansea, merchant, for improvements in the manufacture of iron. January 16.

John Melville, of Upper Harley-street, esquire, for improvements in propelling vessels. January 21.

William Yates, of Manchester, upholsterer, and Denis Dolan, of the same place, scagliola manufacturer, for certain improvements in plastic manufacture or composition, part of which is applicable to decorative and useful purposes, and part as a fireproof cement or plastic. January 21.

John Clay, of Edgeley, Chester, corn-dealer, for an improved apparatus for consuming smoke. January 23.

Peter Borrie, of Princes-square, Saint George's-in-the-East, engineer, for improvements in the construction and fitting, or equipping of ships or vessels. January 23.

William George Henry Taunton, of Liverpool, civil engineer, for improvements in machinery for revolving windlasses, barrels, spindles, shafts, and for pumping. January 25.

The Earl of Dundonald, for an improved rotary engine to be impelled by steam, and which may be also rendered applicable to other purposes (being an extension for the term of 14 years of letters patent granted to him by his late Majesty King William the Fourth, for the said invention). January 28.

George James Norton, of Weymouth, cook and confectioner, for an improved cooking apparatus, parts of which are also applicable to the purposes of lighting and heating. January 28.

John Leslie, of Conduit-street, Hanover-square, tailor, for improvements in stoves and apparatus used in consuming fuel, and in ventilating. January 28.

Mathew Allen, of Worship-street, Shoreditch, builder, for certain improvements in stoves and apparatus for heating. January 30.

Henry Page, of Cambridge, painter, for certain improvements in the mode of painting or decorating with oil and other colours. January 30.

Thomas Middleton, of Loman-street, Southwark, engineer, for improvements in machinery for the manufacture of artificial fuel, bricks, tiles, and other similar articles. January 31.

IMPORTANT TO ARCHITECTS AND CONTRACTORS.

Last week an action was brought by Mr. Mansfield, the landlord of Oliver's Coffee-house, at the foot of Westminster-bridge, to recover compensation from the defendants, Messrs. Grissell and Peto, the contractors for building the new Houses of Parliament, and Mr. Charles Barry, the architect, for damage done to the coffee-house in sinking the foundations for a portion of the new structure. It seemed that in the progress of the works, which were carried on in 1842, it became necessary to obtain a solid foundation for the clock tower, which now raises its ornamented turrets within a few yards of Oliver's Coffee-house. Excavations were accordingly made, but from some cause or other the foundations of the plaintiff's house, which is built on a quicksand, as are all the buildings in the city of Westminster which are near the river, were so much weakened, that the superstructure cracked and yawned in several places, and Mr. Mansfield and his family entertained great apprehensions that the building would tumble about their ears. Representations were accordingly made to Mr. Barry about the state of the house; and some palliation, in the shape of shoring and cement, were applied; but the excavations for the foundation of the clock tower were still continued, and in the middle of June, 1842, the foundations of the coffee-house sank so much, that the whole of Mr. Mansfield's family, about 9 or 10 o'clock, fled, many of them in their night-dresses, out of the house for their lives. The precautions taken, however, preserved the house from coming down, but the proprietor was seriously injured in his business during the progress of the works, and the house has been so much shaken, that it is doubtful whether it can ever be put in a state of thorough repair without pulling it down and rebuilding it. The question for the decision of the jury was, whether the defendants had been guilty of negligence; and the testimony adduced was of a very contradictory character. On the part of the defendants, the witnesses stated that every possible precaution had been taken in order to prevent the catastrophe which had occurred; while the evidence given on the part of the plaintiff certainly went to shew that all was not done which might have been done.

Mr. Justice Coltman summed up; and the jury returned a verdict for the plaintiff,—damages 700*l*.

New Books.

The Pictorial Gallery of Arts. Charles Knight, London: 1845.

In this work, published every month, it is proposed by the aid of *three or four thousand engravings* to open to view the entire kingdom of technical skill in all its more important operations: to shew man in every region of the earth labouring to surround himself with those necessaries, comforts, and conveniences, which constitute the elements of civilization, and then, going forward into the higher range of arts, surrounding his life with the attributes of taste, and ultimately reaching the highest development of the principle of beauty. This, which for any other publisher would be a very expensive work, Mr. Knight is able to effect at very small cost, by employing engravings already used in other works, and which when brought together, assist each other to elucidate particular subjects and so acquire fresh value. The first volume will be devoted to what are generally called the useful arts, the second will illustrate architecture, sculpture, and painting. The first part, now before us, treats of the arts contributory to food. As calculated to lead the young we cannot recommend it too strongly.

The Builders' Price Book for 1845. By W. Laxton, Surveyor, 10, Fludyer-street, London.

This is the 19th edition of Mr. Laxton's useful volume, and contains upwards of eight thousand prices, and three thousand valuable memoranda. It needs no recommendation, or we would gladly give it.

Correspondence.

COMPETITION FOR LAYING OUT GROUND, KING'S-ROAD, READING.

Sir,—After all that has been written upon architectural competition, you will perhaps be unwilling to devote much more of the space in your valuable journal to the subject, but I think Mr. Blendy's letter in the last number of The Builder should not be allowed to pass without comment, as the plan he adopted for obtaining a decision on the designs in the late competition at Reading, appears, as far as I can learn, to have produced any thing but satisfaction. This may not arise so much from any defect in the plan itself, as from the manner of carrying it out. He states that in consequence of a letter in The Builder, he determined to make the *competitors themselves* the judges of the designs, and that he is well satisfied with the result of the experiment, there being so many almost equally balanced in point of merit, and with a view of proving this, has sent you a list of the designs which obtained votes and the number recorded for each, which certainly shews the diversity of opinion; but then, I would ask, *was there any standard laid down for the judges to go upon?* For amongst upwards of forty competitors great variety of design was to be expected, and consequently great difference of opinion with regard to the merits of each. Judging from a letter in your journal a short time since from a "Regular Subscriber," who, I presume, has seen the designs, two great mistakes appear to have been made by the promoter of this competition. In the first place, a set of *rules* is printed for the guidance of the competitors in preparing their designs, which it is stated in the preamble "*the proprietor will require to be adhered to by those who intend to compete.*"

The first condition is, "That the designs shall be delineated upon plans of the same scale as the one now furnished (being one chain and a half to the inch), and be drawn in simple outline with Indian ink, the roads coloured yellow and the sewerage blue."

The second is, "That if it should be considered by you desirable that uniformity should be observed in the erection of a class or classes of houses, that a ground-plan and elevation of such houses should accompany your design, and the estimated cost of erection stated."

And with reference to the award of the premiums it is stated that "each competitor will be required to attend in Reading on a certain day to be notified to him, then and there to give me his opinion in writing, which design he considers possesses most merit, and which is the next deserving (of course he must omit his own design)."

Now, to the first of these rules, very few of the competitors have thought proper to attend, beyond drawing their designs to the specified scale, for the plans are in many cases got up very elaborately and tickled up so as to attract the eye, the buildings being deeply back-lined in dark lake colour, and the grounds all laid out in walks and beds of different colours; and such is, I am assured, the case with those plans to which the premiums have been awarded.

To the second rule, several competitors have paid no attention, and have merely sent in block-plans, without elevations or ground-plans of the houses as required.

And thirdly, if Mr. Blendy is correct as to the number of competitors, they cannot all have attended to give their votes, for by looking over the list of those who have voted (the publication of which, by the way, the competitors will, I should imagine, look upon as a breach of confidence) the names of only twenty-six will be found, thus leaving upwards of fourteen who have not chosen to go to the expense of a visit to Reading for the purpose of giving their votes, but who, nevertheless, have been allowed the chance of obtaining votes for their own designs from those who did attend, by not having them withdrawn from the competition, which seems to me to have been the proper course to pursue; for surely some distinction ought to have been made between those who complied with all the rules and conditions, and those who did not.

In conclusion, I would I ask, where is the use of having rules and conditions printed for a competition, if it is made optional with the competitors whether they abide by them or not, as has been done in the present instance? Where instructions are given, the first thing for the judges to ascertain should be, in which designs they have been most closely followed, and thus the author of such designs would be placed in a proper and fair position; but in the late competition every one has been left entirely to his own caprice and fancy in his award of the premiums. Would it not have given much more satisfaction if a set of questions had been prepared, and a copy given to each competitor, in which, in addition to stating which two plans he considered most deserving, he should have also been required to state *whether such plans were in accordance with the printed instructions*, and if not, with which had they not complied, and also in which two designs he considered the authors had most fully complied with the said rules? and then the premiums should have been awarded to those designs which had a majority of these opinions in their favour.

If I am misinformed as to any of the details I have alluded to, I trust that some of the competitors, who I dare say are readers of your useful journal, will be good enough to set me right, as my only object, in thus addressing you, is to state what I consider ought to have been the course adopted in order to give so novel a mode of deciding on the comparative merits of a set of designs, a fair and impartial trial, and which I consider, unless great caution is used in its application, is open to great abuse.

Apologizing for thus intruding so much on your valuable space,—I remain, Sir, yours, &c.

Feb. 5th, 1845. Fairplay.

FRESCOES AT BUCKINGHAM PALACE.

Sir,—Observing in your number for 1st February a notice that the frescoes in the Casino of the gardens at Buckingham Palace had failed, I venture to say you will, upon inquiry, find this general condemnation incorrect. It is to be regretted that uncertain rumours obtained circulation respecting this first but distinguished effort to introduce to England a specimen of the higher examples of Italian decorative art, they being calculated to check any extending desire among gentlemen of taste and fortune to engage British talent upon similar works.

The principal apartment, forming an octagon, terminates in a cupola, the walls judiciously panelled with brilliant arabesques, relieved by delicate stuccoes and gilding, rendered subservient to eight frescoes, illustrative of Milton's Comus. The fine compartment by Mr. Eastlake is alone sufficient to prove the entire success awaiting our native artists in works of fresco. A second apartment is successfully painted in *encaustic*, powerful in colour, and firmly executed; while her Majesty's closet presents a magnificent adaptation of Italian art.

These beautiful decorations will not be finished for some time, and therefore any detailed notice would at present be injudicious. To the royal personages, at whose suggestions and private expense these works are creating, the British artist will have cause to be very grateful. An example of the highest class of decorative embellishment executed by Englishmen, and under such distinguished encouragement, will at the present time be of eminent service, and confer the highest honour upon its noble promoters.—I am, Sir, your obedient servant,

James Crabb.

67, New Bond-street, Feb. 6, 1845.

UNDERPINNING OLD WALLS.

Sir,—I should feel obliged if I could be informed, through the medium of your useful journal, whether I should incur any danger of a settlement by undersetting one side of a large house, for the purpose of adding a building with a cellar underneath.

It is proposed to build the cellar 4 feet below the foundation of the old building. The foundation is beach. How can a settlement be prevented if the undersetting be done with bricks and mortar, the latter being a long time before it gets dry?

It seems to me that undersetting much superincumbent weight can only safely be executed by using cement instead of mortar, but that would be expensive.—I remain, Sir, yours obediently, A Subscriber.

[Cement must be used; the first expense is the least.—Ed.]

ON ARCHITECTURAL COMPETITION.

"If the history of competitions were written, its details would shew an extent of rascality astounding."—THE BUILDER, vol. iii. p. 52.

SIR,—As almost all complaints on the subject of competitions which reach the public seem to derive their publicity from your pages, and as there appeared in the issue of last week a promise to publish particulars of future malpractices as they may come to your knowledge, I send a few extracts from a correspondence in which I have been lately engaged, from which you will be able to judge of the to me, apparent injustice pursued on a very recent occasion. I do not give you the names of the parties, as the correspondence was certainly on one side never intended for publication; but you will be satisfied with the recognition of the hand which pens this letter.

The secretary of a committee for obtaining competition designs for a new church, which was to be built for 4,000*l.*, with aid from the building societies, returned to me a set of drawings with the following note:—

"Sir,—I have this day returned your plans by rail, car. paid, and hope they will reach you in safety. They were much liked, but not chosen.—I am, &c."

In answer to a request to know who was successful, the reply was dated November 4, 1844, and commenced—"Sir,—I did not know that it was customary to give the information you require," adding the name of the parties.

I own myself vexed at what appeared to me rudeness as well as ignorance; and, in consequence of rumours as to an injudicious decision, I wrote twice, giving those reports at full length. To my first a decidedly evasive answer came; and to the second the chief part of the reply was this:—

"December 2, 1844.

"You write that you would be obliged *for an explicit answer* to your last letter, which you would lead one to infer was this:—'In short, I beg you to do me the justice to say (for whether the committee has decided properly is not a matter to be decided upon even by your powerful assurance of the wish of the members to do right) if the premium is or will be paid to Mr. —— or Mr. ——, as I understand one of those names is attached to the successful design; and if that design without alteration holds 1,000 people conveniently on the ground-floor without seats in the chancel, which the building societies will not allow; and whether that design, without alteration, can be executed for 4,000*l.* in the judgment of practical men (I do not mean the authors of it, and none but practical men can judge). These questions will be easily answered by yes or no.' Where in your letter of the 11th of November are these or any such questions asked? You must allow me to say there is something here I cannot understand, and my safest plan is to inform you that the committee having advertised for plans under certain conditions, *will*, I have no doubt, adhere to them.—Yours obediently, &c.

"P.S. I hope this correspondence may now cease."

That is, Sir, that one month after the return of my design, and also after stating the name of the successful competitor, I am told, after pressing for a denial of the reports descriptive of the successful design, the committee WILL *probably* decide according to the condition.

I believe that there is no means of investigating the case, or I should feel inclined to learn with certainty what has been done.—I am, Sir, your obedient servant, J. W. P.

[Our correspondent refers to the competition plans for St. Thomas's New Church, Winchester, concerning which, letters are printed at p. 557 and p. 564, vol. ii. We are informed that it is not clear even at this time which of the *two* gentlemen is the successful candidate.—ED.]

SPAFIELDS' BURIAL-GROUND.

SIR,—Seeing in your paper of last week an article under the head of "Burial-ground Nuisance," containing an account of infamous practices taking place in this ground, the whole of which is grossly false, and as proceedings are about to be commenced against the author, I hope you will, in justice, find a corner in your next BUILDER for this communication.

I am, Sir, your obedient servant,
Feb. 12, 1845. A. BIRD, Manager.

MR. COCKERELL'S LECTURES.

SIR,—I am quite astonished to learn that Professor Cockerell should have recommended, *ex cathedra*, the not particularly artist-like practice of literal and wholesale copying, *alias* piracy, from books of design. If such doctrine is to prevail, adieu to architectural design altogether; we have only to follow the patterns which are ready prepared for us, and that, as is proved by the professor himself, a builder is capable of doing just as well as an architect. I am tempted to fancy that the professor spoke somewhat ironically of the "exceedingly fine portico" produced by the builder, and intended his remarks to be interpreted *cum grano salis*.

I remain, Sir, yours, &c.,
AN ARCHITECT.

WHEN TWO BUILDERS, WHICH IS TO GIVE NOTICE?

SIR,—I have some alterations to make to a house, which my client wishes to be done by two different persons, one to carry out the bricklayer's, and the other the carpenter and joiner's works. Now the new Building Act expresses that the *builder* is to give two days' notice to the surveyor before alterations are commenced; but as there are to be two separate tradesmen employed, upon whom does the duty devolve? By answering this question, you will greatly oblige your constant reader and admirer, WILLIAM FREEMAN.

Paddington, Feb. 10, 1845.

[The Act provides that notice shall be given by "the master-builder, or other person employed to execute any work; or if there be no master-builder, or other person so employed, then the owner of the building, or other person for whom, or by whose order such work is to be done." If there be two master-builders, he who begins first should give notice, for which and other reasons we point to the bricklayer.—ED.]

Miscellanea.

INCREASE IN LIFE ASSURANCE.—The reports read at the meetings of the several assurance associations held within the last few weeks make known the fact that during the past year there has been a great extension in the number of persons who have secured for their families the provision which the system of life assurance is designed to afford. It has been an anomaly in the action of society, that a people so sensibly impressed as Englishmen peculiarly are by a desire to provide for their families, and yet, at the same time, strongly influenced by the pride of present circumstances, should have hitherto been so indifferent to the means furnished by the principle of life assurance, for overcoming the apparent insuperable difficulty of securing a large future benefit without any material present sacrifice. We are glad to find this indifference no longer exists; and that, under the exposition of the benefits of life assurance, promulgated by various offices, and the collateral aid of the press, the subject is becoming well understood and extensively acted upon. At a recent general meeting of members of the Scottish Provident Institution, held at the Star Hotel, it was remarked, however, that of eight or nine offices which had arisen within the last few months, only one appeared to be constituted with exclusive reference to the interests of the assurers, namely the British Mutual Life Assurance Society of London, which was founded on the principle of mutual contribution, or of dividing the whole profits among the assured. The rates of premium were much lower than those charged by other mutual offices, and have been adopted for the use of the society from the Scottish Provident Institution, which has met with unexampled success.—*Post Magazine*

THE IRON TRADE.—The make of iron in the United Kingdom at the present time is near 1,400,000 tons annually. Scotland furnishes almost one-third part of the supply—being 450,000 tons annually, or at the rate of 9,000 tons per week. But in the course of two months there will be nine new furnaces put in operation in this neighbourhood alone, and their combined yield may be calculated at 1,350 tons weekly, or 70,000 tons per annum.—*Glasgow Constitutional.*

WESTMINSTER IMPROVEMENTS.—Yesterday week a large meeting of the inhabitants of Westminster was held at the Mechanics' Institution, Great Smith-street, for the purpose of considering the best plan for the improvement of the district. Amongst the gentlemen on the platform were Mr. B. Hawes, M.P.; the Hon. Captain Rous, M.P.; Mr. C. Hindley, M.P.; Colonel Short, Mr. Humfrey, Mr. R. Wason, Mr. C. Wood, &c. The Hon. Captain Rous, M.P., was unanimously voted to the chair, and he having briefly introduced the object of the meeting, Mr. Wilson opposed the plan of Mr. Wason, because it would not remove many of the existing inconveniences, and he urged the necessity for the formation of some street to run from Westminster Abbey over the ground now occupied by Tothill-street, destroying the old and dilapidated courts and alleys in its way, and leading direct to Pimlico. In conclusion, he read extracts from Parliamentary reports, to shew the dreadful condition of the neighbourhood, as regarded drainage, ventilation, cleanliness, and health; and moved a resolution to the effect, that no part of the metropolis more urgently required improvement than the space between the Houses of Parliament and Buckingham Palace. Mr. Bignell moved, as an amendment, "that a committee be appointed to examine the various plans, and to draw the attention of the Metropolitan Improvement Commissioners and the legislature to that which they considered the best." Mr. Hawes, M.P., said that before the committee could come to a determination the plan of Mr. Wason would be in execution. It would be advisable to pass a resolution to endeavour to suspend proceedings in Parliament until the best plan should be determined upon by the inhabitants of Westminster. The resolution proposed by Mr. Wilson was then carried, and also others, to the following effect:—"that a committee be appointed to consider the improvements suggested; and that they be directed to impress upon the Government the propriety of withholding any plan which is not approved of by the inhabitants generally." Mr. Hindley, M.P., moved "that in any line of streets formed attention be paid to the improvement of the dwellings of the poorer classes." This resolution having been carried, and the committee appointed, the meeting separated.

THE TOWER.—A few days since a deputation from the British Archæological Association paid a visit of inspection to the Tower, where they were received by Major Ebrington, the deputy governor, Major Hall, Captain Vernon, and Mr. Stacy, who conducted the members over all parts of the building, without any reserve. The alterations now in progress have laid open several new sources of antiquarian interest, not the least of which are the architectural peculiarities of the celebrated Traitors' Gate, most of which have been previously unnoticed. The causes which led to the visit were the disposition shewn by the authorities to preserve all relics and monuments of interest which are not inconsistent with the necessary improvement, as was evinced by their reclaiming from the City the portion of the Old London wall, on Tower-hill, from the destruction to which it had been consigned by the corporation. The results of the inspection, when complete, will be made the subject of an official report to the authorities. Upwards of 300 coffins have been removed to the catecombs at the back of the church of St. Peter ad Vincula, which were previously interred in the burial-ground, and displaced in the excavations made for the foundations of the new barracks which are to be erected on the side of the old Small Armoury.—*Times.*

IMPROVED METHOD OF MAKING BRICKS: N. J. Wyeth, Cambridge, Massachusetts.—The object of this composition is, to produce bricks which will admit of driving nails into them, to avoid the necessity of introducing in walls what are known amongst mechanics as "wooden bricks." This composition consists of clay, mixed with either sawdust, charcoal, peat, or tan-bark, after it has been used by the tanner. The proportions may be varied, but the patentee recommends three parts of clay to five parts of either of the combustibles above mentioned.—*Claim:* "I do not claim mixing combustible materials with clay for making bricks, but I claim mixing them in such proportions as will produce bricks possessing the above-named properties."

THE THAMES TUNNEL SURPASSED.—A submarine tunnel has lately been discovered at Marseilles. It passes from the ancient Abbey of Victoria under an arm of the sea to Fort St. Nicholas. The *Débats* says that the structure is considered by M. Matayras, an architect, to be Roman, and much finer than the Thames Tunnel, being one-fourth longer, and formed of a single vault of 60 feet span.

HEALTH OF TOWNS.—Mr. Mackinnon has given notice that on the 18th inst. he will call the attention of the House to the necessity of improving the health of towns by preventing burial of the dead within their precincts; and that on the 20th inst. he shall move for leave to bring in a bill prohibiting the nuisance of smoke from the furnaces of factories.

DWELLINGS OF THE POOR.—The landlord will do nothing but exact an exorbitant rent for houses unfit to be inhabited; the poor man is either too ignorant, too indifferent, or too powerless to help himself; the Commissioners of Sewers abandon him; the Woods and Forests hunt him like a wild beast from one end of London to another. To whom shall he resort in his distress? Will the Government help him? To be sure they will. They have shewn the best disposition in the world. They have collected a vast deal of valuable information, they know all about Punderson's-gardens and Lamb's-fields; they are most desirous of doing all they can for his comfort. Our streets for the future are to be wider, our houses are to be much better built, we are to inhabit cellars no longer, and it is now fairly to be expected that, as party-walls have been long insisted on as means of preventing the destruction of property, a supply of water and proper sewers will be given us to preserve our lives from fever. But when are the good intentions of the legislature to take effect? It is for existing things that legislation is urgently required. We do well to provide for the future, but the present ought not to be kept out of sight. Dr. Southwood Smith points out two regulations as being of paramount importance, and of universal application to the dwelling-houses of the humbler classes—the prohibition, under adequate penalties, of the letting of any house as a dwelling-house in which water is not laid on, and to which there is no privy sufficiently screened from view. To the enforcement of these regulations he sees no practical difficulty; nor do we. Will the legislature have the moral courage to compel the landlords to the performance of their duty? We shall see. They must first expect a little discussion as to the meaning of the phrase "rights of property." Have they the courage to put a reasonable interpretation upon it? We shall see.—*Medical Times.*

SAWING BY MACHINERY.—In reply to a request from the sawyers of Oldham, that Lord John Russell would aid in obtaining a tax on mechanical inventions, his lordship has very properly refused to do so. "If I were to comply," says his lordship, "I could not stop with your trade. Nail-makers are in a similar situation, owing to the new machinery for the manufacture of nails; other artisans and agricultural labourers will pray for the like interference, to prevent the use of new machines which interfere with manual labour. Now, my belief is, that those inventions tend to the improvement of our condition as a people, and to enable us to support the great weight of taxation to which we are subjected. Ever since I have known this country, machinery has been in progress towards perfection, performing more and more the task of human hands, and, at the same time, a great number of people have found profitable employment. I know, and I deplore, that while this progress is going on, many a workman loses the wages which skill and experience have enabled him to gain. But instead of the perilous course of laying duties on machinery, which would soon enable foreign nations to outstrip us in the score of competition, I am of opinion that we ought to give greater freedom to trade, and, if possible, so extend the demand for labour, that our population, greatly increased as it is, may obtain a good price for their day's work. I do not mean to pronounce any opinion on the late tariff, so far as regards timber. If the sawyers of this country are subject to unfair competition, they have a cause for redress so far as colonial timber is concerned."

LECTURES AT THE ROYAL ACADEMY.—Sir Richard Westmacott will commence his course on sculpture on *Monday* the 17th inst., and continue it on the 24th March, 3rd, 10th, 17th, and 24th. Mr. Howard, on painting, will begin on *Thursday* the 20th inst., and continue on the 27th, the 6th of March, the 13th, 20th, and 27th. Mr. Cockerell concluded his course on Thursday last. We shall give a full report of the lecture in our next.

SCULPTURE.—The Marquis of Landsdowne has commissioned Mr. Watson, the sculptor of the Eldon and Stowell statues, to execute two bas-reliefs of a poetic nature, for Mr. Barry's new gate to the noble marquis's seat at Bowwood.

PRESERVATION OF TIMBER.—Mr. Toplis recommends the introduction into the pores of timber of a solution of sulphate or of muriate of iron; the solution may be in the proportion of about two pounds of the salt to four or five gallons of water.

PROPOSED NEW PIER AT ERITH.—A meeting was held last Monday, at the Bell Inn, Erith, for the purpose of erecting a new pier, in consequence of the monopoly of the Diamond Company, who have the sole privilege of calling at the present pier. Mr. Noakes presided. Resolutions were passed in accordance with the object of the meeting.

STONE DRESSING MACHINERY.—A patent has been granted for this purpose to Mr. H. Ward, of Charles Town, Massachusetts, who thus describes it. The block of stone to be pecked and dressed is placed upon a carriage, which passes it, by a slow motion, under a series of pecking and dressing chisels. These chisels slide in a frame inclined to the plane of the carriage, that they may act on the stone obliquely, instead of vertically, and, for the purpose of changing this inclination, one end of this frame is jointed to the main frame of the machine, and the other may be elevated and pressed at pleasure. The chisels are held up by springs, and forced against the face of the stone by hammers actuated by tappets on two shafts, one at each end of the frame. The first and second rows of these chisels are pointed, for the purpose of pecking, and the others are flat, for dressing the surface. For squaring, or forming, the edges of the stone, there is a chisel on each side, with the lower edge at right angles with the side, and operated in the same manner as the peckers and dressers; these break off the stone, and form the edge, so that when the block is turned over to have the other faces dressed, the sharp corners shall not be broken off.

THE MONSTER BELL FOR YORK MINSTER.—The bell, intended to be put up in the south tower of York Minster, has recently been manufactured at the foundry of the Messrs. Mears, Whitechapel, and is larger than any other in the United Kingdom. Its weight exceeds twelve tons; it is 7 feet 7 inches in height, and its diameter is 8 feet 4 inches, being heavier by seven tons than the celebrated "Tom" of Lincoln, and by five tons than "Old Tom" of Oxford. The metal took twelve days to cool, from the 18th of January when it was poured into the mould to the 30th ult. The clapper is not yet put in, but this will weigh between three and four cwt. The tone of it is described as being exceedingly grand, and to be compared to the full swelling diapason of an organ. The arms of the city of York, and those of the archbishop (the cross keys), are on the bell in opposite positions to each other. The following inscription, in Lombardian characters, is round the upper rim:—"In sanctæ et æternæ Trinitatis honorem pecunia sponte collata Eboracenses faciendum curaverunt in usum ecclesiæ metrop. B. Petri ebor." And on the lower rim are the words, "Anno salutis MDCCCXLV Victoriæ reg. VIII. Edwardi Archiepi XXXVIII. C et G Mears, Londini, fecerunt." The cost of it is about 2,000*l.*, this having been raised by voluntary subscriptions, as alluded to in the above inscription. It is intended by the executive committee, previous to its removal to the cathedral at York, where it will be conveyed by railway, that the public should have an opportunity of seeing the bell (which is to be named "Peter of York") and which it will require the united efforts of twenty horses to draw.

Tenders.

FOR making a Sewer in the town of Cambridge. To be cylindrical and 2 feet diameter in the clear. The length about 385 yards, and the average depth about 9 feet.

The Commissioners of Paving and Lighting, met on the 21st ult., to examine the several tenders which had been sent in.

Mr. Cockerton complained of the course of a proposed drain, whose course was laid out through grounds belonging to St. Peter's college, and leased to Mr. Humfrey, in Prospect-row, without the consent of the college having been had. He was not at present in a position to give the consent of the college to the proposed course.—This objection was made before the confirming of the minutes of the former meeting, and some difficulty was raised to the reception of tenders for the drain which had been advertised for.

The tenders were received conditionally, that the work be not begun until an arrangement was made with the college, and a motion was passed to the effect that formal application be made to the college and the lessee. The following tenders were given:—

Thomas Brook, Hackney, Middlesex [laid aside in consequence of the blanks not being filled up].

Joseph Coulson, East-road, sewer 8s. 6d. per yard—cesspools 2*l.* 8s. each—lateral drains 3s. 6d. per yard.

James Stevens, Quay-side, sewer 8s. 5d.—cesspools 2*l.* 7s.—lateral drains 3s. 6d.

John Bennett, James-street, sewer 7s. 11d.—cesspools 2*l.* 10s.—lateral drains 3s. 3d.

Pell Hall, Castle-end, sewer 8s. 5d.—cesspools 2*l.* 8s. 6d.—lateral drains 3s.

Then cesspools are likely to be required. Mr. W. Swann proposed, and Mr. H. S. Foster seconded, that Bennett's tender be accepted. Mr. S. Adcock proposed that Coulson's tender be accepted, on the ground that you should have a man who will do his work well; some complaint had been made of the way in which Bennett had done his work, and there was an objection to Bennett also, because Mr. Asby, a commissioner, was a surety for him. Mr. Cream seconded the motion. After a noisy discussion on the merits of these parties, Stevens' tender was proposed by Mr. Cropley, but not seconded. A show of hands was taken, when there appeared 9 for Coulson and 8 for Bennett. The names were called for, when the following voting took place;—

For Coulson.—Messrs. Adcock, Favell, Warwicker, Swinton, Headly, Haslem, Cropley, Cream, Papworth, and Woodley,—10.

For Bennett.—Messrs. Balls, C. F. Foster, H. S. Foster, Hatt, Swann, Matthew, Marshall, and Asby,—8.

Mr. Ekin declined to vote. Coulson's tender was accepted conditionally.

TENDERS for the Alterations and Fittings of School-room under Vauxhall Chapel for a Wesleyan Day-school for Boys.—W. W. Jenkins, Esq., architect, Bartlett's Buildings.

Cooper and Davis	£134
Haynes and Co.	128
Thompson (Camberwell)	115

Tenders opened in the presence of the Builders.

NOTICES OF CONTRACTS.

For a supply of Railway Fastenings for the Great Southern and Western Railway, Ireland.—Mr. William Taylor, Secretary, 3, College-green, Dublin. February 17.

For the Repairs of Lindfield Church, near Cuckfield, Sussex.—Messrs. T. H. Taylor and Son, Architects, 22, Parliament-street, Westminster. February 17.

For building a Barge, 69 feet long and 13 feet wide, capable of navigating the river Lee.—James Wright, Deputy Storekeeper, Ordnance Office, Waltham Abbey. February 18.

For erecting and completing the Tide Sluices, Bridge, and other Works, at the top of the Eau-Brink Cut, above Lynn.—Messrs. Walker and Burges, 23, Great George-street, Westminster; or Mr. George Game Day, Clerk to the Middle Level Drainage Commissioners, St. Ives. February 20.

For the execution of the whole Works on the Slamannan Junction of the Edinburgh and Glasgow Railway, being about a mile long.—H. G. Wright, Secretary, Railway Office, Queen-street, Glasgow. February 24.

For such Mason's and Pavior's works (stone paving only) as may be required by the Commissioners of Sewers of the City of London, for the term of three years, from the 25th of March next. Joseph Daw, Esq., Guildhall, London.—February 25.

For the supply of Granite or other hard stone for the service of the Stone's End district of the

Surrey and Sussex Roads.—Road Office, Charing Cross, and W. S. Gaitskell, Esq., 21, Stamford-street, Blackfriars' Road.

For the supply of from 4,000 to 5,000 yards of Iron Railing for inside drives of Birkenhead-park. —Mr. Hornblower, architect, Hamilton-buildings, or Mr. Walker, Town-hall, Birkenhead.—February 26.

For supplying the Great Western Railway Company with such quantity of the following articles as may be required from the 1st of April, 1845, to the 31st of March, 1846; viz. Bar and Pig Iron —Castings—Bolts and Rivets—Copper (sheet and ingots)—Ironmongery, screws and nails—Brass and Iron clasp, closet tacks and wirework—Lead and Zinc—Steel for springs—Timber—Tubes, brass, copper, iron and zinc—Patent Wheel-tire, and various other articles.— Chas. A. Saunders, Esq., Secretary, Paddington. February 27.

For taking down and rebuilding the Tower of Grendon Church.—Mr. John Baker, Churchwarden, Grendon, near Atherstone. March 1.

For building twelve Boats and Engines for the City Steam-boat Company. — Charles Hancock, 17, Earl-street, Blackfriars.

For Surveying and Valuing the Property in Austin-ward, Humber-ward, Trinity-ward, St. Mary's-ward, Whitefriars-ward, and North-ward, all in the parishes of Holy Trinity and St. Mary, Kingston-upon-Hull.—John Moxon, Clerk to the Governor and Guardians of the Poor, Workhouse, Hull. March 1.

For the Mason's and Pavior's Works, supply of Guernsey Granite Chippings and Yorkshire Paving, for one Year, from the 25th of March next, for the parish of St. George, Hanover-square. Mr. R. Lees, Clerk to the Paving Committee. March 4.

For the supply of 20,000 tons of Iron Rails, and 7,000 tons of Iron Chains, for the Newcastle and Berwick Railway.—George Hudson, Esq., Railway Office, York, and at 24, Great George-street, Westminster. March 4.

For the supply of 100,000 Railway Sleepers for the Newcastle and Berwick Railway.—George Hudson, Esq., Railway Office, York. March 4.

For repairing the footway pavements, and providing and laying new curb and other stone; for repairing the carriage-way, pavements, and providing and laying new granite and other stone, during one year from Lady-day next, for the united parishes of St. Andrew, Holborn, and St. George-the-Martyr, Middlesex.—Clerk's office, 13, King's-road, Bedford-row. March 8.

For the supply of 11,000 feet of nine-inch cast-iron Pipes for a new line of Aqueduct to be laid in the Island of Malta.—Vin. Casolani, Collector of Land Revenue, Office of Land Revenue and Public Works, Valletta, Malta. March 31.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

February 17, at Bristol; Feb. 18, at Dorsley; Feb. 19, at Cirencester; Feb. 20, at Leominster,—a number of Maiden and Pollard Oaks, and Maiden Elms.—Messrs. Clark, Medcalf, and Gray, solicitors, 20, Lincoln's-inn Fields; and Messrs. J. P. Sturge and Co., surveyors, Bristol.

February 17 and 18.—At Livermere Park, Suffolk; 1,500 very superior Elm, Ash, Alder, Beech, Larch, Scotch Spruce, and Chesnut Trees and Stands.—Mr. Norfolk, auctioneer, Chequer-square, Bury St. Edmunds.

February 20.—At Madingley; a quantity of Ash and Elm Trees, some of which are very large, and of excellent quality.—Messrs. E. Smith and Son, auctioneers, Cambridge.

February 20.—At the Hall of Commerce, Threadneedle-street, 540 Logs of St. Domingo Mahogany, of superior quality and large dimensions. —Thomas Edwards, broker, 1, Pinners-hall, Great Winchester-street.

February 20.—At the back of St. George's-terrace, Dalston Rise; 300,000 sound new Stock and Place Bricks, and a large quantity of Burrs and Bats.—Messrs. Humphreys and Wallen auctioneers, 68, Old Broad-street.

February 21.—At Garraway's Coffee-house, Cornhill: 300 loads Quebec Red Pine; 100 loads Yellow Pine; 100 loads of Ash; 80 loads of Oak; 10,000 Yellow Pine deals and battens; 10,000 Spruce deals and battens.—T. and J. Simson, brokers, 5, Change-alley.

February 21.—At No. 38, Mincing-lane, 300 tons of fine fresh Lima Wood.—Charles Roberts, broker, 38, Mincing-lane.

February 21.—Equi-distant between Lynn and Downham Market; 3,000 Larch, Scotch Spruce, Oak, Elm, and Birch Poles. They are principally Larch, of good dimensions and quality, from twenty-five to thirty years' growth.—Messrs. Mumford and Casebow, auctioneers, Lynn, or Downham Market.

February 25.—At the King's Arms Inn, Hemel Hempstead; a large Fall of capital Oak, Ash, Elm, and Beech Timber Trees, the greater portion of which are of very large dimensions and superior quality.—Mr. James Adams, auctioneer, Clarence-street, Staines, Middlesex.

COMPETITION.

The Committee of the Liverpool Docks are desirous of receiving Plans for the most convenient mode of landing or embarking passengers, carriages, &c., &c., at George's Pier-head. A Premium of 200*l.* will be given for the Plan selected and acted upon, and a Premium of 100*l.* will be given for that Plan which may be deemed to be the next in utility.—Daniel Mason, Esq., secretary, Dock Offices, Revenue-buildings, Liverpool. March 19.

TO CORRESPONDENTS.

"S. A. H." (a carpenter).—*Section XLI. in the old Building Act, provides that the person at whose expense a party wall shall be built, agreeably to the directions of that Act, shall recover from the adjoining owner when the wall is used, after the rate of 7l. 15s. per rod; but even in cases where the wall was pulled down without any desire on the part of the adjoining owner, a greater price was generally allowed, as it was known that brickwork costs more than that sum. At all events, an addition equal to the duty on bricks imposed since the passing of the Act, could, perhaps, be insisted on legally. In the case mentioned, we do not think he could avail himself of the Act, but this can be determined only by one who hears all the particulars. The ground landlord should be appealed to. If the wall stood wholly on our correspondent's ground, as might be inferred from part of the letter, he would have no right to touch it, and might be punished.*

"H. Rose."—*The article "Stonehenge," in the Penny Cyclopædia, written by Mr. Britton, will refer you to all that has been said on the subject.*

"Mr. Pepys," (Ghent).—*We shall be glad to receive any information he may be able to send.*

"M. Daly."—*Where can we see the "Revue" in London.*

"Association of Architectural Draughtsmen," *next week.*

"Mr. W. Herbert" *complains of a paragraph in our last number, headed "New Street to Long Acre." He may rest assured we shall not interfere with the private rights of any. The paragraph in question was simply an acknowledgment of letters received by us from others, and on which we gave no opinion. The fact, that Mr. Herbert is building many of the houses in the street named, is an assurance to us that they will be done well.*

"J. W." (York), and "G. R.," *next week.*

"Bernan's History of Warming and Ventilating."—*Our thanks are due to Mr. Bell, the publisher, for the use of the cuts which illustrated the extract from the above work in our last number. We have already recommended Mr. Bernan's book to our readers.*

"G. W. Bennett," *is referred for general information on warming buildings to the last-named work. The best mode of warming the proposed Mechanics' Institution and probable cost depend materially on the plan.*

"A Subscriber" (Burton-upon-Trent), *asks the height of St. Paul's Cathedral, from the ground to the top of the cross.*—340 *feet.*

"L." *will be glad to know where the best information on* Terra cotta *is to be found.*

"O." *wishes to be directed to the best architectural drawing school. We will inquire.*

Received.—Minutes of Proceedings of the Institution of Civil Engineers.

MEETINGS OF SCIENTIFIC BODIES

During the ensuing week.

MONDAY, February 17. — *Statistical*, 11, Regent-street, 8 P.M.; *Chemical* (Society of Arts), Adelphi, 8 P.M.; *Medical*, Bolt-court, Fleet-street, 8 P.M.

TUESDAY, 18.—*Linnæan*, Soho-square, 8 P.M.; *Horticultural*, 21, Regent-street, 2 P.M.; *Civil Engineers*, 25, Great George-street, 8 P.M.

WEDNESDAY, 19.—*Society of Arts*, Adelphi, 8 P.M.; *Microscopical*, 21, Regent-street, 8 P.M. (Anniversary); *Ethnological*, 27 A, Sackville-street, 8 P.M.

THURSDAY, 20.—*Royal*, Somerset House, 8½ P.M; *Antiquarian*, Somerset House, 8 P.M.;

FRIDAY, 21.—*Geological*, Somerset House, 8½ P.M. (Anniversary); *Royal Institution*, Albemarle-street, 8½ P.M.

SATURDAY, 22.—*Royal Botanic*, Regent's Park, 4 P.M.; *Westminster Medical*, 32, Sackville-street, 8 P.M.; *Institution of the Fine Arts* (Society of Arts), Adelphi, 8 P.M.

ADVERTISEMENTS.

NEW CONGREGATIONAL CHAPEL, HOLLOWAY.

THE BUILDING COMMITTEE of the above Chapel beg to inform those Gentlemen who have favoured them with designs, that they have selected the one marked "E. D. O.," and that the remainder may be had on application at C. A. Bartlett's, 66, Paternoster-row, London.

February 10, 1845.

TO BUILDERS.—To be LET, on BUILDING LEASES, some excellent BUILDING GROUND, to form a square around a church now very nearly completed, in an increasing neighbourhood, near the West-end. Money advanced as the work proceeds. Apply to Mr. Frances E. H. Fowler, architect, 28, Sackville, street, Piccadilly.

Great Reduction in the price of Farleigh Down Bath Stone.

J. G. WELLER, of STEEL-YARD WHARF (late Drew's), has the pleasure to inform Contractors, Builders, and Dealers, that he has just concluded arrangements which will enable him to place cargoes of this celebrated and unequalled Free Stone alongside any wharf in the river, at the unprecedented low price of 1s. 6½d. per foot. The same stone may be had in large or small quantities, at a great reduction from former prices, at the wharfs of Mr. Hanson, Kensington; Mr. Foot, Westminster; Mr. Searle, Wapping; and Messrs. Dance, Chelsea.

N.B. Six-inch Ashlar, 9d. per foot.

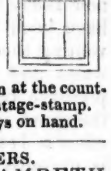
W. SNOXELL, 96, QUADRANT, REGENT-STREET, Inventor and Patentee of the REVOLVING SPRING WOODEN SHUTTER.—These Shutters combine economy with perfect security, the cost being very little more than common shutters; and of such simple construction, that the largest establishment can be opened or closed in a few moments with the greatest possible ease, and without the use of machinery. One great advantage over all other revolving shutters consists in there being made without metal hinges, consequently cannot rust, or get out of order.

TO THE BUILDING PUBLIC.

SASHES AND FRAMES, DOORS, &c.

Manufactured for the Trade By C. W. WATERLOW, 121, Bunhill-row, Finsbury-sq.

Best Materials.—Lowest Prices. Terms: Cash.



Full lists of prices may be had on application at the counting-house; if by letter, pre-paid, inclosing postage-stamp.

A large stock of well-seasoned Doors always on hand.

TO ARCHITECTS AND BUILDERS.

DOULTON AND WATTS, LAMBETH POTTERY, LONDON.—Manufacturers in TERRA COTTA of VASES, FOUNTAINS, &c., for Pleasure Grounds. FIGURES for Public Buildings, and ARCHITECTURAL WORK of all kinds.

This TERRA COTTA has all the appearance of Stone, and being subjected to a high degree of fire is imperishable; thus possessing a decided superiority over cement or artificial stone.

Stone-ware, Water-pipes for Houses, Drains, &c., Water closet pans, with simple and perfect trap; the cheapness efficiency, and easy adaptation of which render them desirable not only for public institutions, but for every house.

SUBSTITUTES for GLASS, for the windows of Manufactories, Workshops, Warehouses, School-rooms, Offices, Out-buildings, Skylights, Horticultural purposes, &c.—GERARD ARNEY and Co.'s TRANSPARENT WATERPROOF GLAZE PAPERS, LINEN, and CALICO. The great support which the Proprietors have hitherto received induces them again to solicit the attention of Builders, Proprietors of Factories, Warehouses, &c., to their Substitutes for Glass. They afford a light very similar to ground-glass, and the frames for their support need only consist of a lattice-work of wood or wire. Builders will find them very serviceable for temporary windows, &c. Prices, &c.:—Glaze paper, 23 inches wide, 6d. per yard; calico, 31 inches wide, 1s. per yard; linen, 28 inches wide, 1s. 6d. per yard, in 6-yard lengths.

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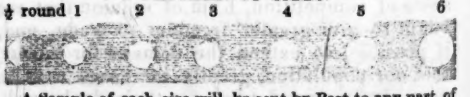
½ round 1 2 3 4 5 6



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